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General Scientific

AMERICAN HOSPITAL TRAINS IN FRANCE.

HOWARD CLARKE, M. D.

MEDICAL CORPS, U. S. ARMY; IN CHARGE OF TRANSPORTATION DEPT., CHIEF SURGEON'S OFFICE, AMERICAN EXPEDITIONARY FORCES IN FRANCE.

In connection with the transport by rail of the sick and wounded from the battlefronts, the first idea of the American Army was to adapt ordinary box cars for hospital train purposes, by introducing into them fittings for supporting tiers of litters—these fittings to consist of metal posts capable of being screwed into the roofs and floors so that they would take up little space and could be cleared out readily when not wanted, thus enabling cars which had brought in wounded being easily transformed to their original status and go back to the front, conveying supplies.

This idea seemed sound, as the train would answer a double purpose and the maximum of efficiency be secured. It was found, however, that in practice this method would cause unnecessary suffering to the sick and wounded and greatly inconvenience traffic arrangements. In the earlier days of the war, both the British and French armies adopted this procedure, but found that it was difficult to secure the requisite number of freight cars when required, and a great deal of time was consumed in cleansing and making fit these freight cars before they could be used for hospital purposes, and after use for such purposes, before food supplies and similar articles could be again loaded into them. Both governments abandoned this system and now supply completely equipped hospital trains for purposes of evacuating wounded. In cases of great emergency—as after a severe engagement—ordinary coaches for sitting patients are still to some extent utilized, but lying cases are conveyed exclusively by standard hospital trains.

The American Government has profited by the experience of its allies, and orders were promptly placed by the Medical Department for sufficient hospital trains of the latest and best type, to take care of its immediate needs. Owing to the great distance from the United States, and shortage of cargo space, no coaches are being imported from the United States; the trains are being obtained from the leading English and French railway companies—the majority from England, where the quality and the supply are more satisfactory to our purpose

These trains are, for the most part, supplied through the agency of the British Railway Executive Commitee, which appointed a special subcommittee to make all arrangements relative to design, equipment, transportation, etc., in conjunction with a military advisory committee in France. It should be remarked in passing that the trains are designed primarily for the evacuation of the sick and wounded, and are not strictly hospital trains in the sense of treatment or operation for patients. As the war has progressed, every endeavor has been made to provide for the care and comfort of our sick and wounded, and the hospital trains secured by the United States are in accordance with what experience has proved the best, and every consideration has been given to recommendations made by the medical officers of the Army with practical experience.

Great importance is attached to standardization; and simplicity is combined with usefulness. Thus, from the experience of her allies, America has been provided with the latest and best vehicles for the service of transporting our wounded by rail, and so far some seventeen complete hospital trains—or 272 coaches—have been constructed. More trains are to be provided as additional troops arrive in France. The coaches, completely equipped, are transported from England by special ferries to a port in France, so that a train is ready for service as soon as the vehicles arrive here.

As the hospital trains are standardized, a description of one gives a comprehensive idea of them all, with but a few minor exceptions. They are each composed of sixteen coaches, and give accommodations as follows:

One infectious case car, 18 beds.

One staff car, 8 beds.

One kitchen and sitting sick officers' car, 3 beds and 20 seats.

Eight ordinary lying ward cars, 288 beds.

One pharmacy car.

One infectious case sitting car, 56 seats, 14 upper berths.

One kitchen and mess car, 3 beds (for cooks).

One personnel car, 30 beds.

One train crew and store car.

Total, 400 beds.

The average empty weight of the train, without engine, is about 450 tons, and the average length of the train, without engine, 920 feet. Long coaches, 54 to 56

feet in length, are used, instead of the short continental coach type, in order to insure a comfortable journey for the patient. These trains are so attractive in appearance and arouse such interest in the public that they are frequently placed on exhibition in England before shipment to the continent, so that the public may see what excellent care is being taken by our Medical Department of the interests of our soldiers. It seems too bad that one of them could not be shipped for an exhibition tour throughout the United States, as every home in our land will be more or less represented in our fighting forces and it would be very gratifying and comforting to those at home to know that such splendidly equipped conveyances are provided for the care of any of their dear ones who may be wounded or become sick while serving their country in a foreign land. Those who visualize these trains only from photographs or descriptive articles may wonder what it must be to see them when loaded with wounded at the battlefronts and ready to proceed to the various hospital centers. The badly wounded, the slightly wounded, the infectious cases, and the mental cases have all to be specially provided for, and arrangements made for their medical treatment; also for supplying them with proper food, and special cooking facilities are afforded in the two kitchen cars provided on each train.

Let us now see how the care and comfort of all is provided for throughout the train. First of all, we have the caboose and lying infectious car. In the caboose half of this coach, which is entirely partitioned from the rest of the car, the train crew have their accommodations. In all of the rest of the train there is complete communication through vestibules, corridors, and ample aisle space. In this lying infectious car there are three separate sections, shut off from each other by doors, and each is equipped with specially fitted laboratories. There are also accommodations for attendants.

The next coach is the staff car, for nurses and medical officers. Sleeping compartments are provided and a separate mess room for nurses and officers. This coach is also equipped with a shower bath and made as comfortable as possible for those who work so hard on these trains in the interest of their patients.

The next coach is one of the two kitchen cars, the posterior half of which is fitted as a lounging room for sitting sick officers. There are also sleeping accommodations for the cook. An army range is fitted in the kitchen, and there is a hot water installation which keeps available a constant supply of fifty gallons of hot water. This car also has a good supply of water for mess purposes, and its arrangement has been very carefully designed.

Now, as to the eight ordinary ward coaches for lying down cases, each car is fitted with 36 beds, arranged in tiers of three. These beds have been specially designed, are removable, and in case of necessity can be used as stretchers. One interesting feature about them is that the beds are capable of being folded against the sides of the coach when the car requires cleaning; and by lowering the center bed flush with the side of the coach, the bed nearest the floor is converted into a comfortable seat or couch upon which patients can sit at ease, while the top bed is still available for lying down cases. By this arrangement of converting the beds into seats the less seriously wounded are made comfortable by being able to sit up as well as lie down. It must be borne in mind that even what is called a "sitting-up case" cannot sit up for a long journey, so that the convertible beds provide for the comfort of all. These coaches are considered models from the viewpoint of simplicity and efficiency. To expedite loading and unloading, double doors are provided on each side of every ward coach, as near the center as possible, which enables litters to be quickly and conveniently taken in and out. It is quite remarkable how speedily and comfortably the loading and unloading can be done. In the case of serious injury, where it is not advisable to remove the patient from the litter, it is possible to rest the litter directly on the bed supports, without complicated adjustments. The trays are provided in convenient locations so that smokers are not denied the enjoyment of a smoke. Small racks are also fitted for patients to have handy their little personal possessions which they desire to have near them.

The pharmacy car is placed in the center of the eight ward coaches, where it is most convenient. In this coach also is a room containing a collapsible operating table for the performance of minor operations, or where dressings may be changed. The pharmacy car is completely fitted with all drugs, linen, medical and surgical necessities, and has an office where the records are kept.

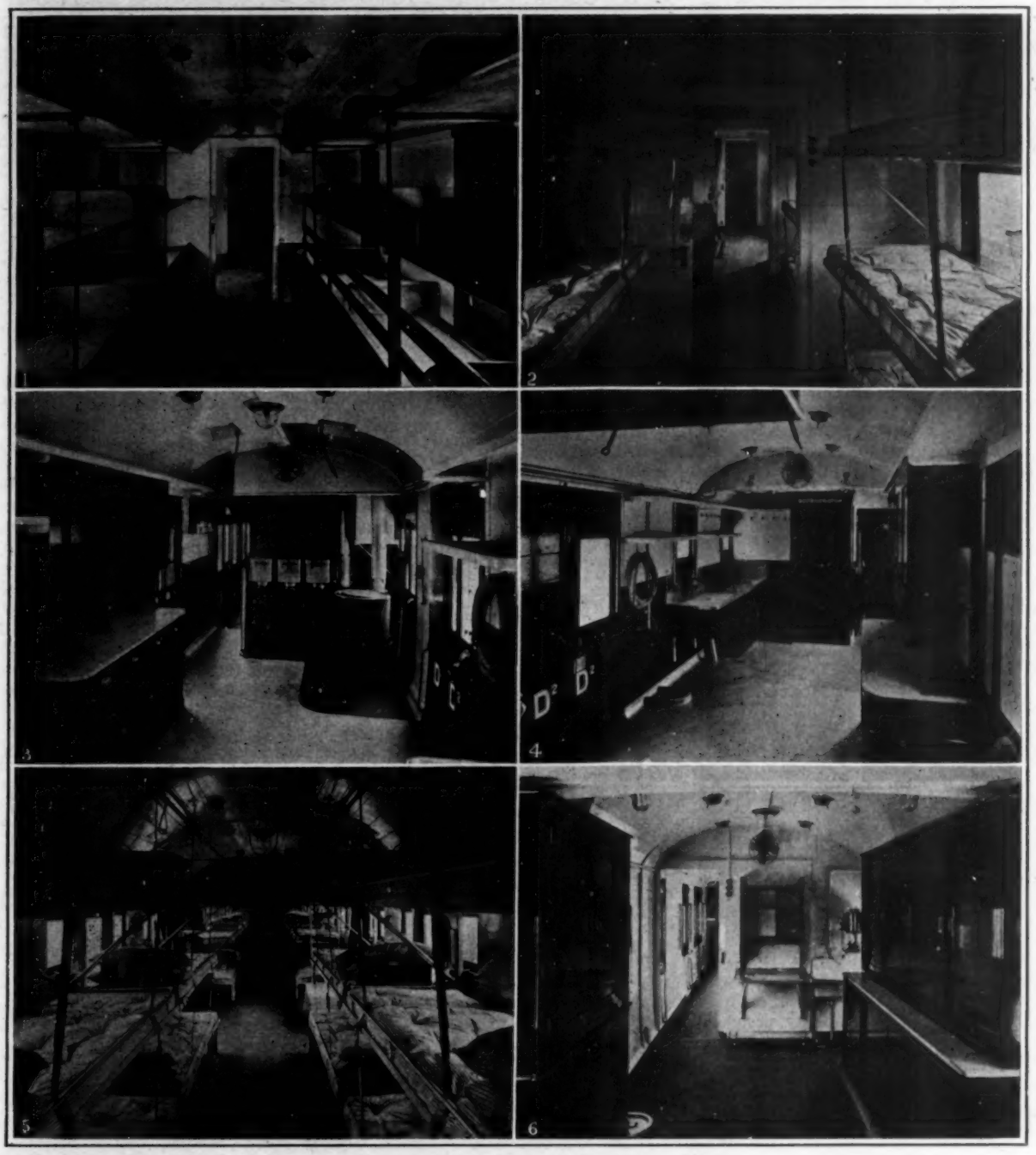
Another coach is used for sitting infectious cases, and consists of an ordinary side corridor carriage, continental type, from which the upholstery has been removed for sanitary reasons. This car is attached near the end of the train; and such unfortunate victims of this terrible war classified as "mentals" are also accommodated in separate compartments of this car. It is made as comfortable as possible.

The personnel car is provided for the hospital orderlies or enlisted force, and contains some 30 to 36 beds, and is designed on the same lines as an ordinary ward coach, so that in case of great emergency it can be utilized as an additional car for patients.

The second kitchen car has dining-room accommodations for noncommissioned officers and enlisted men. Like the first kitchen car, this has similar arrangements for cooking and hot water facilities.

The last coach on the train is the store and caboose coach. In addition to ample room for general supplies, accommodations for the train crew are provided, partitioned from the rest of the car. All the details of lighting, heating, water supply, ventilation and lavatory accommodations have been provided for. The trains are electrically lighted throughout, and are capable of generating at any speed. Storage batteries are located under the body of the vehicle. An ample supply of candle holders is provided for emergency use in case of the electrical connections becoming disordered. Trains are steam heated throughout and the ratio of heat radiating surface is higher in the American trains than in any other railway coach on the continent. The staff and personnel coaches are equipped with a special self-heating arrangement so that they can be kept heated when the engine is detached, as the staff live on the train. Water supply in ample quantity for drinking and other purposes is provided on each coach, the total quantity on the train being about 2,500 gallons. In addition to this it will be remembered that the two kitchen cars are capable of supplying fifty gallons of hot water each at any time. Drinking water is supplied throughout the train in six-gallon tanks. Special attention has been given to ventilation in ward and other cars and the lavatories. The trains are adequately equipped with large electric fans, and also have small portable fans for use in the treatment of gas cases. Ample lavatory accommodation is provided.

At present the personnel assigned to these trains con-



VIEWS OF AMBULANCE TRAIN

1. Stores Car E.
2. Lying Infections Car A10.
3. Kitchen of Cars D1 and D2.
4. Kitchen of Cars D1 and D2.
5. Ward Car.
6. Pharmacy Car F—Dispensary.

sists of three officers, three trained nurses, and thirty-one enlisted men.

The administration of the hospital trains is in accordance with Army Regulations, and under the direct control of the Chief Surgeon, who notifies the Railway Transport Service of the movements desired, and that service makes the necessary traffic arrangements with the French railway authorities for the movement.

The illustrations give but a fair idea of how comfortable and well equipped these trains really are. It is believed that they will serve, however, to give friends and relatives "back home" some idea of the care and thought that the Medical Department of our Army is bestowing on our sick and wounded soldiers who require transportation by railway trains.

Back those Bayonets with Bonds.
Money means Munitions—Buy Liberty Bonds.

THE FOOL AS A MENACE TO THE COMMONWEALTH.

What Shall We Do With, and How Protect Ourselves From the Semi-Responsible.

J. MADISON TAYLOR, A. B., M. D.
PROFESSOR OF APPLIED THERAPEUTICS, TEMPLE UNIVERSITY, MEDICAL DEPARTMENT.
Philadelphia, Pa.

In every community there is an assortment of dubious, unreliable mentalities who, under even the most favorable circumstances, menace welfare, but during periods of unusual stress and confusion seriously complicate uncertainties.

Few difficulties would arise in efforts at conserving resources during war, could we be sure of the sanity, poise or wholesome-mindedness of those on whom we most depend for co-operation or responsibility. All will agree, on giving fair attention, that the most dangerous of created beings is the fool, or the near fool, for the obvious reason we can predicate the behavior of fierce animals, beasts of rapine, even of crazy humans, but the fool may escape detection, or even suspicion, while enjoying full liberty of action. He may commit at the nick of any exigency some grievous sin of commission, or more likely of omission, and thus throw the entire program or social, or political, or military, or industrial scheme off its base.

I.

A fool may be described as one who exhibits, among other anomalies, inability to fit automatically into his or her environment, and can only do so when conditions are, and remain, peculiarly favorable, and when reacting to disturbing influences commits strange and unpredictable acts, often hurtful to others.

Every citizen conscious of personal responsibility owes it to himself to realize the gravity of one of the most constant and ubiquitous menaces to the commonwealth, and this is the semi-responsible, the blunderer, the potential disturber of organizations, even of national growth. A social act committed may then be wholly unrecognized by the community, its gravity unrealized; indeed the offender or essential criminal may be entirely pleased with himself yet clog or vitiate an entire collective enterprise.

The outstanding characteristic of the American people is an easy-going tolerance of fools, blunderers, cranks, and potential trouble makers. This *laissez faire* attitude is perhaps excusable during the flood tides of prosperity. At the present time we are at war (amazing as it may seem to that variety of boobs or conspirators, self-entitled "pacifists"), and we are fighting for our existence as a nation against an implacable, conscienceless, vigilant and thoroughly organized foe.

Any number of these adversaries pass in and out among us, unrecognized and ceaseless in their determination and zeal to work the destruction of not only our nationality but our moral integrity. Are we not blameworthy, inexcusable, unless we co-operate to appraise every individual entrusted with responsibility, and to sift the safe from the unsafe; the poisonous from the clean human factors?

There is no truth in the claim of blithering optimists that there always must be a considerable latitude granted to cranks, irreconcilables, inconsistent ones. That mediaeval religiosity which conferred a tender, confiding, all enfolding sympathy upon the witless and the bizarre, is an outworn folly, or dangerous delusion.

Such disturbers of social order are not "acts of Providence"; nor are they lunatics, incapable of being correlated with organized society. They are products of the criminal negligence of those who should know better; who may possess but do not exercise foresight, judgment, or wisdom. If such culpable persons are not experts in mental confusions and obliquities, they none the less are blameworthy in failing to co-operate with experts or in accepting proffered or available recommendations and carrying out adequate precautionary measures. To be sure, we must endure and make the best of these incompetents, fools, mattoids and imbeciles till we come to a realizing sense of the facts and take suitable precautions.

Fortunately wisdom—though it "lingers"—is exhibiting signs of healthy growth. The remedy for all such human perils is in our own hands, and attempts are being made to safeguard ourselves against the worst of them; notably the action of our military surgeons, through commissions on mental hygiene.

II.

We, as a nation, have been the first to employ mental (psychiatric) experts to weed out the "potential neurotics" from our recruits. Surgeon Generals Gorgas and Braisted deserve vast credit for developing this enormously important project upon a systematic and consistent basis.

One brief reference to this military mental hygiene and then let us pass on to the broader subject. This special section of the medical department of the army has evolved a plan whereby every man examined by experts (of whom there are more than 300 of the very best in our service), and the recruits are being rated so as to guide in selection or adaptation for special duties requiring more than the average intelligence and mental alertness.*

This evaluation greatly assists in decisions for promotions in different lines. Most important of all, however, is the determination furnished for degrees and kinds of personal limitations or deficiencies, whereby to simplify the work assigned, such as manual or other irresponsible labors, or to eliminate the individuals from governmental responsibility.

Let me direct attention to the obvious fact that such a mental rating is equally important for citizens in every department of civilian life, professional, communal, or industrial. It is suicidal folly to shield from, or deny to, even our families and friends, such a frank assessment.

Furthermore, it is a cruelty to omit a searching expert inquiry into the make-up—the psychophysical potentialities—of each and every child with a view of saving him or her from the dangers to which they are exposed, not the least of which is in the shaping of life work, of career, of destiny.

Why push the young personality into directions, situations, to which they are unsuited? Why handicap them by selfish, prejudiced, opportunist compulsions?

In order to achieve these obviously desirable results the child should be studied most carefully during the nursery stage and all its early indications set down in orderly records. Why not conserve our man power at the source?

One brief reference to what we must deal with:—Heredity is blamed unduly by students of genetics, though full knowledge of trends and tropisms and traits must be subjected to rigid scrutiny and appraisement. The truth is that a small portion of hereditary obliquity is easily and constantly made to grow serious by unfortunate, unfavorable training.

* The Federal Committee on Clinical Methods and Standardization of Examination and Reports has a sub-committee on "Mental Hygiene War Work" composed of 12 members, among them the best psychiatrists in the United States.

Subversion of carefully devised plans by one mentally twisted or quirked causes most of those bewildering or amazing uncertainties which arise during critical episodes of history. Especially was this so, for example, where a catastrophe ensued upon a series of brilliantly ordered, patiently developed and wisely coordinated projects. The whole measure thus came to naught or worse, through the act of some incompetent entrusted with a post of responsibility. It may never be known what caused the catastrophe, or even who was to blame. Object lessons of vivid import are being hammered into us daily; brilliant examples of successful issues are achieved by our enemies, the Germans. Their progress proves the paramount value of *real* experts in any or all positions of trust. Recognizable fools don't often get by such a thoroughgoing system of trial and error.

A fairly fool-proof principle or measure is the subjecting of candidates for any important post, governmental or industrial, to suitable examinations or other critical testing at intervals; this should also include appraisement of past records. At present, in these United States, we are at the complete mercy of political placemen who swarm in the halls of Congress, the Senate, Federal departments and even the cabinet, and who are as incompetent to discharge their duties as though they had no other training than a clerkship to a boss of a successful municipal gang.

Such placemen seem selected chiefly as a reward for service rendered to some man higher up with serene disregard to any individual attributes or technical training or analogous experience.

Now in the appraisement of the genus fool, note that the distinguishing characteristic of a moron or mattoid is mental and emotional assymmetry.

III.

Individual fools may, and often do, exhibit abilities of a high order in one limited domain or group of facilities with, at the same time, not only complete emptiness in other directions but instead strange impulses, being swayed by counter forces, mental obliquities of a dangerous order. Hence one who may have displayed magnificent capabilities as a Chautauqua raider, a political manager, or a "putter over" of civic schemes, may prove a menace to civilization in the role of cabinet minister, foreign ambassador, bureaucrat or in some other purely appointive yet responsible position.

It may be urged that the illustration cited is farfetched. The vital question of mental integrity, however, is one of kind rather than degree. The qualities which go to make up one type of superfacility may (rarely) coexist in an individual of an entirely different make-up, but this validity can only be determined by careful testing. One does not, in private life, hire a man to captain a seagoing yacht who had only heretofore kept a successful bar-room and then allege as an adequate reason that he contributed materially to settling the labor troubles in some one's factory. You "may not care a damn" whether this man had training or not as a sea captain, but you need to know he is not a fool.

A particularly well-balanced mind may be able to suddenly and swiftly and most unexpectedly be switched from one job and plumped into another, doing creditable work in each. A study of the peculiarities of average humans of the lower two-fifths of the total population are bound to reveal rifts and queer spots and twisted nerves or crossed wires, and evidences of "blight in the bud." The individual may, in fact, be sound in one domain and an utter fool in another.

The fool as we consider him here has, for certain limited purposes, a good side if screened, fortified and not thwarted. If never put to any strange or severe tests, he may pass current as a decent, well-behaved citizen. Precipitate this unstable personality out of his familiar circumstances and transfer his energies to where a wholly different group of demands are made upon him, and he may show himself to be a veritable Frankenstein, or a devastating anarchist. At the best he fails to react normally to the foreign environment, to unexpected exigencies and to unfamiliar stimuli affording his neighbors all sorts of surprises and exasperations.

From what has been thus crudely indicated you may begin to realize how frightful (schrechlichkeit) an unsuspected fool is capable of becoming when placed under conditions which bring out the worst elements of his particular brand of folly. You may now safely admit the subject justifies expert and thorough study. Prodigal trustfulness here is closely allied to fatuous (chuckle headed) optimism and persons thus vitiated have done more harm by protecting, coddling and defending fools, delinquents and evildoers than by all other human powers of darkness.

Obviously it is worth while to learn a few points how to know a fool when one "stops the way" or encumbers your path. Few take the trouble to do so; many persons frankly don't wish to differentiate a fool from a wise man. Some "saints" declare it is wicked to harbor suspicions of foolishness about any of "God's creatures." They would wait, as the law recommends, for some "overt act" to be performed before taking soundings or organizing precautions. This overt act may be an indefensible invasion of the rights of others; some injury to person or property, or a mere prank like arson; or of opening the flood gates as at Johnstown.

We could endure with serenity the self-destruction of such fools as these hyperoptimists themselves are—but they usually escape through fool luck; the damage falls as usual on "the innocent bystander."

IV.

How many fools are there? No statistics are available chiefly because of the varied and obstinate denials of fact by your dear friends and mine. Of course, we have extensive data on imbeciles (aments), morons, mattoids and paranoids; some on the insane (dements) and evildoers, but the Simon pure, deadly, undifferentiated fool still awaits a proper historian or statistician.*

Let us make no mistake, we, in these United States are overstocked with kaleidoscopic fools in high places, clothed with appointed (not earned) authority. No one seems to be ready to initiate a fool hunt, not even to advocate a selective draft of potential trouble-makers.

As to the natural history and phenomena of the fool, testimony is scanty and contradictory; the protective enactments are in urgent need of codification. A plan was proposed by me some years ago to effect this; meanwhile I submit the proposition that there is no subject which more richly deserves the attention of practical economists, philanthropists, sociologists as well as of every scientist capable of contributing to the solution.

Some months ago in pursuance of a plan for investigation I propounded the two questions herein asked to some half a hundred of the leading experts on mental alienation and retardation in the United States and Can-

* One needs to look no further than the files of the *Congressional Record* to find a mine of wealth on the natural history and phenomena of monumental fools and their follies.

ada. Their answers deserve careful tabulation. In the main they agreed there was really little reputable knowledge on the subject of morons or mattoids and strongly endorsed any attempt to elucidate the subject.

The perils each and every one of us run by the elevation of fools to positions of high control are too patent to be swept away by such fatuous beliefs as: "God is in Heaven, all's well in the world." Here are grave duties to perform conscientiously; vigilancies to exhibit; careful studies to be made, leading up to organization of suitable precautions. Unless wise men organize to safeguard themselves and the commonwealth against the acts of fools, they become of the same company; indeed like Bolsheviki they "go the limit."

This land of the free (much too free) has a government peculiarly devised to constitute a paradise for undifferentiated fools. The army and navy are reasonably safe because individuals are, from neophyte up to retiring age, constantly subjected to rigid, careful scrutiny; officers are subjected regularly to tests mental and physical. Yet by no means do they get the appreciation as experts they deserve and have won. As has been said our War Department was the first to organize a special corps of mental experts to weed out the "potential neurotics" from sound recruits.

V.

What shall we do with the fool? A hard question to answer. No problem is more necessary to be solved sanely and practically. After agreement as to a suitable course of action all too few will take the responsibility of decisive action. We must learn first to admit the prevalence and perils of fools at large, unrestrained and encouraged. We must divest ourselves of wrong kinds of loyalty to ideals; to our friends or benefactors or fellow citizens who are the parents or kinsfolk or lovers of fools. We must realize the necessity of learning to view mankind as they actually are constituted and not "as we prefer to believe them" (Wm. J. Bryan's favorite convincing phrase) to be endowed or as they are moved, impelled or instigated or self-persuaded. We must at least appreciate the value of appraising mankind free from the confusing effects of self-distorting eyeglasses. We must learn to recognize and beware of a fool when encountered; if possible to form some idea of his capabilities for harm, and to set our faces firmly against estimating him from a sentimental or over-merciful standpoint.

The most radical achievement would be to realize and assume that a fool is an ever-present and serious menace to us and to our loved ones and neighbors; a potentiality for perpetual peril of almost any form or degree. Fools are asocial beings; they fail to fit into any ordinary environment or to stay fitted, or to work in harmony with others. Here we bump into the diffusive, more foolishly optimistic tenets of the church as interpreted by some clergymen. We run counter to that uncritical, fatuous "charity to all men" which wrecks more careers than many can be brought to admit. Men obviously are not born free and equal, except the sane ones and then only in the eye of the law.

VI.

Are there more wise men than fools? We hope so; otherwise a world-wide democracy leads us into grave jeopardy. It all depends on what we admit to be that degree of foolishness which places the individual outside the lowest average of essentially qualifying good sense. A knowledge of the kinds, degrees and varieties of folly are items of knowledge of vastly greater significance than of almost any other group or classification of human beings. Yet one subject—the culpable fool—is almost taboo and when touched upon at all is usually in bitterness or in self-deeciving hypercharity.

VII.

Among the most important of questions is: What varieties of fools must we reckon with? Here a mere hint or two must suffice. There are passive fools and active fools; those who at least do only negative harm and those who are meddling, pushing, aggressive, pestiferous fools. Some fools, especially those of marked aggressiveness and dynamics, "men of one idea," often enough achieve great things, they go far and climb high. Some of these bridge the chasm, tunnel the ocean, conquer the bowels of the earth; then too often finding their career abruptly ended they become plain, common garden fools. They thereafter cumber the earth, or become corruptors of youth. They frequently fill drunkards' graves. At the most liberal estimate there must be a large element of folly in any one who can go so utterly to pieces as to become a sot; to so fail of service to his fellows, after attaining conspicuous successes. However, here is a deep mystery and the point I beg to urge is that the fool shall be studied on a strictly scientific economic and critical basis as one of the most urgent in world problems.

In the fool of a larger, more masterful type (the mattoid or crank), this overplus of energy, this prepotency, is the conspicuous feature and dominates the other insignia for good or for mischief. The fools of every-day life are more often of the passive type, showing limitations or moth holes in one or more recognizable particulars. The defects competent to produce the fool are of manifold variety and chiefly among those who would come under the group of *constitutional inferiors*. Many of these could pass muster in an uncritical society who dubb them as "merely peculiar; we all have a right to be a little queer," or utter some other puerile apology, or wishful thought.

Constitutional inferiority is a good phrase designed by Adolph Meyer and his students to cover a large group of mind and body conditions diverging from the norm. They fade away from mere lack luster neuters, unstable, odd, fitting illy into their environment, up to pretty dangerous scoundrels and finally to mere bathic dolts, commonplace dunder-heads. They are physically unstable or show maladjustments of varying degrees in respect to three functional levels and upon this basis we may divide mental inferiority into three large shifting, merging groups, (a) the intellectual, (b) the emotional, and (c) the volitional.

Some constitutional inferiors find difficulties in adjusting themselves to their environment, become mentally narrow, cribbed, confined, "shut in," self-absorbed, are "mental clams" (Karpas); others again obtrude themselves too much, butt in, knock things about, bully, grab, become profiteers, and often "make a good getaway" from sheer unawareness of danger, from crass effrontery or moral imbecility. You see that the mental inferior constitutes a large, unlovely and variegated company. A number of persons, whether possessed of the plus or minus qualities sketched above, may again be divided into those of normal or of feeble inhibition or of defective self-control; a quality independent of any other attributes, endowments or peculiarities. This marks a certain graphic feature of no mystery, yet of marked uncertainty.

You can form no right idea of what these defectives will do under any given circumstances; they are imperfectly equipped with balance, with too much push or pull; above all they can't say "yes" and hold to it with

tenacity or they can't say "no" when temptation comes their way. This is the distinguishing characteristic of those who fall down before those great adversaries, drink or dope on the one hand, and on the other the sex temptation.

Foolishness (or folly) of similar kinds and features is often enough shown among certain groups of persons, especially of similar aims, training, occupation. Some of these traits are due to inherent weaknesses, and some to environments; most are a blend of the two, a product of primary trends plus evil habit formation and back of that are ancient mental complexes. The fact is the creature is more or less one-sided, top heavy, "listed to port" or "starboard" and the rest of us must make the most of it, adjust ourselves to their anomalies as best we may.

There is no reason why we should omit efforts to prevent and to remedy the defects of fools if it be feasible. They never will be remedied if foolishness is regarded as a divine endowment to be accepted without question, nor is it an excuse for peevishness or disgruntlement. I shall try to show that these—like many other obstructions, the result of human carelessness or culpability, can be removed, remedied and the world made better and happier if we go about the business of regeneration sanely and judiciously.

VIII.

My purpose here is to show that these follies are closely akin to deadly social errors; that they have common origins, common denominators; that they deserve broad-minded tolerance and systematic classification, that remedies need reduction to working principles; that problems can be, soon or late, solved with increasing satisfaction. Solution to problems, abuses, perils, destructiveness and the like to be successful, need to include all the chief sources or origins and that individuals must be influenced favorably in the earliest beginnings.

So far as my observation goes up to date wholly inadequate means exist for correction of folly and the effects of folly, inconsequentiality, irresponsibility, merging into the foolish knave, the evildoer, the delinquent, the potential criminal. We need also to differentiate between the fool intellectual, the fool amiable, the fool scholastic, the fool religious, the fool hyperoptimistic, fading off into the crank, the deluded optimist, the pacificist and the visionary.

The first crying need of a long-suffering world is a realization of the gravity of the situation; of the incontrovertable fact that so long as these fools, of diverse degrees and kinds, enjoy that complete freedom of will, of choice, of behavior, then the combined efforts of all the wise men in the world can do little but postpone some, and mitigate others, of the more serious effects wrought upon their fellows.

Fools, upon superficial analysis, are seen to be oftentimes amusing, rather attractive, exhibiting various engaging qualities, and so long as they and their effects hurt no one else, they may remain forgiveable and negligible. None the less they display one-sided weaknesses, rendering it necessary to extend over them a blanket forgiveness, or a special abnegation or even an active protection. Then again some commonly displayed follies are by no means lovely, the features not at all likeable in one otherwise free from offensiveness or harmfulness.

Within certain limitations these follies are merely eccentricities of behavior, or peculiar points of view, vagaries of aims, "crankinesses," and we set them down as mere foibles, possessions, hereditaments, distinguishing characteristics and hence as none of your or my business. Here is where we lay the foundation for much error, misery and danger.

The connection between feeble inhibition and the underworld deserves elaboration. In conclusion I hope to have succeeded more or less well in presenting the proposition of "what shall we do about the fool?" as being one of vivid significance. I sincerely hope the subject will secure critical attention and that sound-working conclusions shall be reached.

DRAINAGE OF THE BLADDER FOR PYELITIS AND UROSEPSIS UNDER STOVAIN ANESTHESIA.*

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Brooklyn

This patient has a double pyelitis and cystitis, and I am going to open the bladder for the purposes of drainage to relieve the back pressure on the kidneys. On account of the pyelitis, I fear to give him a general anesthetic, such as ether, so I am going to do the operation with spinal anesthesia under stovain.

In every case of spinal puncture it is necesary that the patient be placed in the proper position. He should sit well bent over so that the spinal column makes an arch, which serves to separate the vertebræ so that one can strike the spinal canal easily with the needle.

Our landmarks are the spines of the ilium and we select a spot between the vertebræ an inch and a half above a line drawn between the iliac spines. The needle is inserted at right angles from the spines of the vertebral column. Having located the correct point for the puncture, I plunge the needle boldly in, withdraw the stilet and from the escape of spinal fluid, I know that I am in the spinal canal. I now inject the stovain into the canal and withdraw the needle. The patient's head is now lowered and he is placed in the Trendelenburg position. As the stovain is lighter than the spinal fluid, if the patient were allowed to sit up, the stovain would float up and perhaps paralyze the nerves supplying the respiratory muscles. For that reason he is placed with his head low; then the stovain floats up into the sacral region, where it comes in contact with the nerves going off from the bladder and perineum. That is why stovain anesthesia works very well in urological cases.

The next step is to fill the bladder to raise it up so as to take advantage of the space of Retzius so we will not have to go through the peritoneum.

We now open the bladder in the ordinary way and explore with the finger, introduce a self-retaining catheter and then close the bladder around it with a purse-string suture. That makes a water-tight joint around the catheter and there is no leakage.

That completes the operation, but if we were to stop here without going into an explanation as to why this was done and what the conditions making it necessary are, you would miss one of the opportunities of seeing one of the problems that we must handle in our every-day work.

This man is 59 years of age. Two years ago he began to have frequent urination, six to eight times a day and

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three to four times at night, attended by slight pain. These symptoms increased. His urine became cloudy. He was treated by a general practitioner, who washed his bladder for a time, but the patient did not get better and he was referred to a urologist. The urologist examined him with the cystoscope in June and found three stones in the bladder, which he treated by litholapaxy or crushing. The patient was not relieved, as he still complained of frequent urination, cloudy urine, pussy urine and pain. He has been confined to his bed and has been ill since the stones were crushed. About two weeks ago the urine became extremely cloudy. It had been moderately cloudy before that, but the cloudiness increased very much, and he was unable to void. On account of his retention of urine he had to be catheterized and he began to feel ill. His appetite has been very poor since July. There has been vomiting at times. His mouth is always dry. He occasionally has headaches, drowsiness, stupor. His bowels have been rather constipated and it was necessary for them to be moved by cathartics.

With a history of a crushing of stones, inability to void urine, retention of urine, necessity for catheterization, and then a great and sudden increase of pus in the urine, together with the constitutional symptoms of dry tongue and digestive disturbances, we have signs which would naturally make one think of ascending infection of the kidney, or pyelitis.

The mechanism of pyelitis is most interesting and has a very important bearing on all the work that we do constantly. Where the bladder is filled with residual urine there is back pressure on the kidneys. The ureters become dilated, the bladder becomes filled with stagnant urine, bacteria are swarming in the bladder and when the patient lies down, these bacteria work their way up through the column of stagnant urine, creep into the pelvis of the kidney and set up an inflammation of the pelvis of the kidney, or pyelitis. That is the mechanism of ascending infection of the bladder which attacks the pelvis of the kidney.

There are other ways in which the kidney may be infected. The organisms may be picked up by the lymphatics and carried into the blood from the bladder and then through the blood-stream they may be carried to the kidneys. That is the so-called hematogenous infection, or infection by way of the blood.

Those are the two ways in which we get infection of the kidney—by an ascending infection by way of the column of urine, through the ureters; or from a focus of suppuration in some other part of the body by which the organisms pass by way of the blood, the so-called hematogenous infection.

It is a question whether or not the lymphatics will carry infection to the kidneys. It has been suggested that they might, but as far as that point being definitely proven we have no positive knowledge today, so that for practical purposes the two ways in which the kidneys are infected are by ascending infection and by way of the blood, hematogenous infection.

Up to this point I had not used any of the instruments of precision, but had simply made a probable diagnosis, and I reasoned as follows: The probabilities are that this man has a double pyelitis from ascending infection. The pyelitis will cause his death by extension to the parenchyma of the kidney, by setting up pyelonephritis or suppurative nephritis with destruction of the parenchyma of the kidney, suppression of urine and death from uremia.

Now we know that he is already beginning to get some constitutional affection from the deficient elimination of his urea, for he states that his appetite has been very poor since July and he has been vomiting at times. His mouth and tongue are always dry and he is constipated. All these are signs of beginning absorption and toxemia, poisoning from the urea which should be eliminated by the kidneys. This condition is known as urosepsis, and it kills more people than any other urological disease we have to deal with.

I made this statement to his family: "In order to give this man a chance (I don't promise to save his life), we must stop the back pressure on the kidneys. We must give the kidneys an opportunity for the pus to drain out. We must keep the bladder empty, and the only way in which we can do that is by opening the bladder, putting a tube in, draining the bladder and washing it out." Up to this point I had simply been inferring and guessing about the man's condition. I had not done anything to prove that my theories were correct. Before operating on the case I wanted to use all the means of checking up my clinical findings that I could, and so this morning he was brought into the hospital and I cystoscoped him and examined his bladder. Then I found a very marked cystitis, very severe, with flakes of pus seen everywhere adherent to the bladder wall, waving and floating in the bladder, and it took a great deal of washing to get the bladder clean. Trabeculations were seen in the bladder with a beginning cystic diverticulum, showing the effect of long-continued effort on the part of the bladder working against some obstruction to empty itself. There was a slight intravesical hypertrophied prostate. Both ureters were visible. Cystoscopy showed me that I had a very bad, intractable, inveterate case of cystitis to deal with, but it did not disclose the condition of the kidneys. The next step consisted in introducing a ureteral catheter on the right and left sides and the urines were drawn off and examined by Dr. Murray, whose report is as follows:

Right kidney—Pus, 1 per cent. by volume; urea, 3½ grains.

Left kidney—Pus, 2 per cent. by volume; urea, 2½ grains.

So you see that the right side showed less pus and more urea, indicating that the parenchyma of the kidney on that side wass less affected than on the left side. On the left side there was more pus and less urea, indicating that the parenchyma of the kidney on the left side was more affected than on the right side and the function of that kidney more disturbed.

The bladder urine showed 10 per cent. of pus. We had considerably more pus in the bladder than in the kidneys.

Dr. Murray further states that a motile Gram negative bacillus (colon) is present.

A functional kidney test was made at the time of the ureteral catheterization and it showed that the indigo carmin, injected hypodermatically, was not excreted by either kidney after 40 minutes.

This presents to you the whole clinical picture—residual urine, chronic cystitis extending over a long period of time, ascending infection through the ureters with the colon bacillus, aided by back pressure on the kidneys, dilatation of the ureters, infection of the pelvis of the kidney, extension of the infection from the pelvis of the kidney to the parenchyma of the kidney, with a beginning pyelonephritis, which, perhaps, has gone on to a suppurative nephritis, perhaps not. That is something nobody can tell as yet.

The indications for treatment are very, very clear and very distinct. Drain the bladder to relieve the

back pressure permanently, through a fistula so as to keep it empty. Wash out the bladder to keep the colonies of colon bacilli from growing in the bladder. In this way the back pressure is relieved and the column of stagnant urine lying in the ureters is removed and as the urine is secreted by the kidneys is dropping down all the time and drainage of the kidney is improved, just as when you drain an abscess, and through the drainage the man has a chance to recover from his pyelitis. As an aid we use forcing the water. That is the best diuretic we have. We must drink three or four quarts of water a day in order to flush out the kidneys and wash out the poison which is circulating in the blood and which should be eliminated by the kidneys, and this will not only help the damaged kidneys in this case to eliminate the poison, but it will also serve to increase the excreting power of the kidneys. In addition, he will be given urotropin, 20-30 grains, three or four times a day for its antiseptic effect.

This patient will not be out of danger for a couple of weeks. After a few days his tongue will begin to clear up, the bad taste in his mouth will leave it, the condition of his stomach will improve and along with that there will be manifested an improvement in his digestive powers, his strength will come back, his color will improve, he will gain in weight, the pus in the urine will diminish and the functional capacity of the kidneys will increase, so that the functional kidney tests, instead of being delayed 40 minutes, will return to normal.

I think he has a very fair chance of having his kidney functions restored and that he will leave the hospital with the opportunity of years of usefulness before him. This is the favorable side of it. On the other hand, the kidney infection may be so severe that a suppurative pyelonephritis has taken place, and if such be the case, the parenchyma of the kidneys will break down, the kidneys will be unable to eliminate the urea and the man will die slowly of chronic uremia. That is the bad outlook.

Question.—How long does the effect of stovain last?

Answer.—I should say it would last for from three-quarters of an hour to an hour. It is very useful in bladder or perineal or rectal work. It is not so good, however, in kidney work. I have done a great many operations around the genito-urinary tract with it and have been satisfied.

Question.—What effect would it have if you were to introduce a permanent catheter in this case?

Answer.—Most of the cases of hypertrophied prostate may be drained by means of a permanent catheter, but in this instance a permanent catheter would not have answered the purpose because it would not have provided sufficient emptying of the bladder. The bladder must be kept emptied and washed out and while we were attempting to use the catheter we would have lost a great deal of valuable time and when eventually we had concluded to open the bladder it would have been too late. I thought also of using a perineal tube through an external urethrotomy incision, but decided not to do so because the perinal tube can only be retained for a week or two and then the stitches loosen and it falls out, and in addition to that there is the particular disadvantage that the patient must lie in bed all the time. I want to get this man on the roof as soon as it is possible for him to go up there so he can have plenty of fresh air, so I discarded the idea of draining the bladder by means of a perineal tube and came to the conclusion that the best, wisest and most practical thing to do for him was the radical operation of draining the bladder above the pubis. In this way during his convalescence he will be able to get about sooner.

Question.—Will that fistula heal up of its own accord?

Answer.—Yes. There will be no fear of this wound not closing. It is very exceptional to have a suprapubic fistula remain open, although it happens once in a while.

Question.—If the suppurative process does not stop, is there anything you can do?

Answer.—If but one kidney were affected, we could take it out, but when the two kidneys are affected, nothing can be done.

Question.—Could you drain the pelvis?

Answer.—There is one thing that we can do. A suggestion has been made in the last few months for draining the pelvis of the kidney in cases of pyelitis in women, especially in those cases following pregnancy, or for any other reason, a ureteral catheter can be introduced into this pelvis of the kidney and left in place for several hours, or days, or weeks, with the idea of draining the pelvis of the kidney itself and leaving it empty. That has been tried in very recent times, and in the event of everything else failing it is worth trying. However, I should hesitate to use a permanent catheter in the kidney for any length of time, except in a very very desperate case that will not respond to anything else. Then we would be justified in doing almost anything to save a hopeless case.

I am very glad to have been able to show you this case because it represents some of the problems that we have to deal with constantly in genito-urinary work. In the presence of residual urine, with the changes in the bladder which accompany a chronic cystitis, the trabeculations, the hypertrophy of the muscular fibers, the bulging out of the walls, making saccular dilatations, and then the effect upon the ureters—dilatation of the ureters with back pressure, accompanied by the ascending infection with the colon bacillus, which is carried from the bladder up into the kidneys and engrafted into the pelvis of the kidney, with subsequent destruction of the parenchyma of the kidney—these are the conditions which give rise to the condition of urosepsis. Such cases are so insidious in their beginning that they are apt to be overlooked at the important time when operative interference can be safely attempted, for there are no signs referable to the genito-urinary tract except pus in the urine, and the patients complain of vomiting, loss of appetite and bad taste in the mouth, all of which may be passed very lightly until a marked urosepsis as the result of pyelonephritis and imperfect kidney excretion is firmly established.

The subsequent history of the patient was as follows:

After the operation his condition improved, the tongue became moist and the gastric symptoms disappeared. He kept on improving for a week and then suddenly began to fail. Hiccough and vomiting reappeared. He was drowsy, later became comatose. The respirations were labored, although the lungs were clear. The amount of pus in the urine increased and the secretion became scanty and finally complete suppression occurred and death took place on the eleventh day after the operation.

It was evident that the diseased process had extended to the parenchyma of the kidney, probably in the form of a suppurative nephritis and death resulted from suppression of urine.

32 Schermerhorn St.

THE RECLAMATION OF DRUG ADDICTS.

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Notwithstanding the fact that the present mode of treating the various forms of drug-addiction has proved sufficiently trustworthy to justify the happiest expectations whenever a case is intrusted to those who are experienced in this branch of therapeutics, there is still a disposition in both lay and medical circles to regard these addictions as exceedingly unpromising cases.

This totally erroneous impression is doubtless due in part to the fact that the secrecy with which the average addict was once wont to overcome his craving for a particular drug gravitated him into the clutches of the charlatan, who found it most advantageous to himself to continue the habituation by one or another course of deception. In other words, the skepticism which still hinders the reclamation of countless addicts

is a natural outgrowth of the duplicity to which their kind were subjected in the past.

When we pause to consider the fact that in days past drug addicts were most frequently found in the underworld, it can be readily understood why the best medical talent was slow to undertake their reclamation. Indeed, the treatment of drug addictions did not engage the minds of the better element of the medical profession until this form of vice became a positive menace to our entire social system. Hence it is that the placing of the treatment of these cases on a rational basis is counted as one of our recent achievements.

The mere fact that the general practitioner often fails in his efforts to reclaim an addict does not warrant the conclusion that a craving for one or another drug is less responsive to appropriate treatment than is any other morbid phenomenon. Nor is it at all strange that complete failures are sometimes witnessed in instances where the remedial agents employed by the private practitioner were the identical ones that prove efficacious in the hands of those most skilled in the treatment of addicts; the possession of a lexicon does not necessarily make one a linguist.

It is the consensus of opinion of those who have given the subject special study that, save in very rare cases, drug-addictions require *institutional* treatment.

In other words, it is seldom, if ever, possible for the private practitioner to accomplish results that are comparable to those obtained in institutions devoted to the treatment of this class of cases.

In the absence of some acquaintance with the present mode of reclaiming drug-addicts, it is difficult for the private practitioner to understand just why the results obtained at institutions devoted to these cases invariably surpass his own. As a matter of fact, the full importance of such varied facilities as are available only at institutions of the kind in mind does not become evident until one has gained a fair conception of the respects in which the present rational treatment of addicts differs from the pitiless and futile systems of enforced deprivation that formerly represented the extent of our powers of deliverance.

The Psychology of the Addict.

Contrary to the belief which still prevails among the unenlightened, the addict cannot be reclaimed by merely depriving him of the particular drug to which he is habituated; for just as long as the impulse to resort to that drug exists, just so long must the impulse be satisfied. It is the height of wickedness to forcibly deprive an addict of the medium through which he satisfies his morbid craving and then pretend that a cure has been effected.

In every human being there is an elemental impulse to indulge repeatedly in whatever gives rise to pleasurable sensations. If it were not for this particular impulse, there would be no appreciation of the purely esthetic; we would derive no pleasure from music, poetry or dancing. This elemental impulse is not a peculiarity of the human race; the melody of the nightingale and the decorative skill of the bower-bird are quite sufficient to make it certain that this impulse is also an inherent quality of the lower forms of life.

It is manifest that this elemental impulse, or inherent tendency to bring about pleasurable sensations, may be greater in one individual than in another, and that when it exceeds certain limitations it constitutes a true abnormality. And since this is true, it must follow that a certain percentage of human beings are predisposed to excessive indulgence in drugs that still this impulse.

In every case of drug-addiction, regardless of its particular form, the elemental impulse to which reference has been made is inordinate; in fact, it is an etiological factor. But it does not necessarily follow that every drug-addiction is of truly pathologic origin.

As has been seen, the craving for an agent that possesses the power to alter the relation of the ego to its environment is universal, but it manifests wide variations in degree in different races, families and individuals. It is greatest, of course, in those individuals who find it necessary to habitually resort to one or another drug, be that alcohol, cocaine, opium, tobacco or one of the numerous so-called coal-tar derivatives.

In sum, it may be said that certain individuals acquire the habit of resorting to one or another drug, or become so-called addicts, because their elemental impulse to bring about pleasurable sensations is sufficient in degree to completely overcome the economic and ethical hindrances to the vice; because they are deficient in a particular form of self-restraint.

The Treatment of the Addict.

Since an addiction is vastly more than an acquired fondness for the effects of a particular drug, it follows that any system of treatment that is based on a knowledge of the evil influences of that drug without an equal comprehension of the psychology of the individual must be defective. As a matter of fact, experience has shown that a sound knowledge of the psychology of each drug addict is one of the most potential factors in effecting a reclamation. Failure to grasp the full significance of this fact accounts for the frequency with which the efforts of the inexperienced practitioner prove futile.

The reclamation of a drug addict calls for a degree of skill that can only be acquired by long experience in the management of these cases. It is a grave mistake to imagine that an addiction can be overcome by merely depriving the afflicted of his chosen drug or by the administration of an agent that exercises a similar influence over him.

The reclamation of an addict is a task that calls for the exercise of the highest graces and the practical application of a rare degree of expertness. In the management of these cases an incalculable amount of harm often results from a blind experimenting with empirical measures; every resort to agencies that cannot be supported by science is fraught with positive danger to the addict.

Although it must be admitted that the temptation to resort to the occult or the mysterious procedures that are advocated by the untrained or unscrupulous is sometimes strong in these cases, it is of the utmost importance to bear in mind the fact that rational therapeutics is the addict's sole avenue of escape from bondage.

According to the modern concept, the treatment of every addiction, regardless of its particular form, should consist in the complete elimination of the drug from the organism and the total correction of the elemental impulse that provoked the habituation. In other words, the chronic toxemia should be entirely vanished and the peculiar psychic weakness should be fully repaired.

In order to accomplish these ends the addict should be under the constant supervision of specially trained persons for the rapidity with which the disintoxication can be effected varies in different individuals and can only be definitely determined by frequent analysis of the various excreta.

Moreover, the psychology of the individual renders it essential that his environment during the period of his reclamation be precisely that which broad experience with his kind imposes.

In brief, the reclamation of an addict requires the united services of a variety of talent and a diversity of facilities that can only be maintained at an institution having the active co-operation of a large number of private practitioners.

This conclusion is justified by the unparalleled number of reclamations that have been effected during the past seventeen years at the Charles B. Towns Hospital, which was founded by the gentleman who enjoys the distinction of having made available to the medical profession the first institution at which the drug-addict could reap the full benefit of unblemished scientific endeavor and be entirely protected against every possible form of imposition. It is confirmed by the additional fact that the reclamations effected at this institution include every known form of drug-addiction.

537 West 149th Street.

ANTEPARTUM DIAGNOSIS.*

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So much of the prognosis in obstetrics is dependent upon careful prenatal work, that the practitioner can ill afford to be careless in his antepartum examinations, neither can he practice obstetrics intelligently without a general knowledge of medicine. As I have told you in our gynecological work, the uterus and adnexa are but a part of the woman's organism. So in obstetrics you must remember that pregnancy and conditions of the pregnant state may be associated with all the ills and deformities that a woman is heir to. When a woman places herself in your care for her pregnancy and labor, it is absolutely necessary that you should know what the true condition of that woman is before you start. She comes to you in the third month of her pregnancy and engages you to confine her, and you have definite obligations to that particular woman, to protect her by your counsel from the preventable conditions associated with the pregnant state. It used to be that you would take her name and address and her husband's name and business connection, and ask her to send in her urine for examination. It was not unusual to see a number of unopened specimens on any doctor's desk, and that would end his responsibility until called to her labor. A popular uprising against poor obstetrics and prenatal neglect swept over this country in 1913-14 and has had a beneficial effect on the profession, for the public is demanding more intelligent and skilled attendance.

A woman who applies to you now expects you to tell her a number of things. First, is she fit to have a baby? Secondly, how shall she conduct herself throughout pregnancy. Thirdly, if she is fit, what kind of a labor may she expect, etc. As in gynecology, we begin the study of our case at the mouth and teeth. So here, we look at the roof of the mouth to see if the arch is broad or high, because we know that the high arch suggests the ptosic type. Next, we examine the thyroid, for the thyroid enlarges normally in the course of pregnancy. A large number of goitres are the direct result of pregnancy. The patient will tell us that she never had a goitre until she became pregnant, and that the thyroid has not diminished in size after delivery. We find that if the thyroid does not participate in the control of metabolism, to a certain degree, there are apt to be some toxic symptoms in the patient during her pregnancy or labor. It is almost the exception to have toxemia of pregnancy or eclampsia if there is the physiological enlargement of the thyroid gland. Nicholson called attention to this fact.

We next examine the heart and lungs. Numberless women are unfit to have babies because of the presence of an endocarditis. If we find in the throat, evidence of infected tonsils, with a history of repeated quinsey, we may expect to find an endocarditis, and we must judge as to whether it is safe for this woman to have a child. What cardiac conditions are safe? We know that a double lesion of the mitral valve, a stenosis and regurgitation must be studied carefully, particularly as to compensation, and that stenosis is a particularly dangerous lesion for a woman to go through labor with. A woman may have a loud murmur but the valvular defect may be perfectly compensated. We must determine the condition of her heart muscle, and this can only be estimated by keeping track of her pulse pressure, which is the difference between the systolic and diastolic pressures. Readings of the pulse-pressure with the patient at rest and after graduated exercise is the true index of a woman's heart strength, provided she is young and has no kidney lesion. With a normal or approximately normal systolic and diastolic pressure, we may consider this part of her examination satisfactory. It is not exceptional to find a systolic pressure of 200 and a diastolic pressure of 110 with a pulse pressure of 90 in an elderly woman with a heart lesion and renal insufficiency, but in the healthy woman, during the child bearing period, the blood pressure should not be over 130, and we may consider the pulse pressure an index of the condition of a woman's cardiac strength. If a woman has a heart lesion, we should know it and be prepared to deal with it.

Routine examination cannot be too strongly urged. I would suggest a very complete history card, so that until you have trained yourself in system, nothing will be forgotten. I have brought up one of the sheets which we use in our outpatient department. It goes into the personal and family history, particularly as to rickets, scarlet fever, tonsilitis, rheumatism, gonorrhoea, and operations. If we find a rachitic chest, we think at once that the woman may have a rachitic deformity of the pelvis. If she has had scarlet fever, tonsilitis, or diphtheria, we assume that here may have been an involvement of the serous membranes, and the most frequent point of attack is the endocardium. If she has had repeated attacks of quinsey, an endocarditis seems almost always to follow. Gonorrhea has an important bearing on the convalescence, for the majority of one-child sterilities occur from a latent Neisser infection of the cervix and develop about the eighth or tenth day of the puerperium, at which time the cervix is open and the blood clots inside of the uterus act as a culture medium. Just about the time the patient is ready to leave the bed, pain on one or the other side in the lower abdomen, with rise in temperature and local tenderness, shows the infection. The gonococcus may have been latent in the cervix for a time and then ascends and passes through the tubes. This also may occur after abortion or during the menstrual period.

The lungs should be examined for evidences of tuberculosis, and if the patient has been affected, we should inquire if she has had sanitarium treatment, and if so, if she is cured. Any case of active tuberculosis is increased by pregnancy and should not be permitted to go to term.

*Clinical Conference for Students and Practitioners, at the Long Island College Hospital.

Inquiry into the history concerning previous operations is of much significance in these days of so much gynecological surgery. Suspensions of the uterus which frequently become fixations, and the several methods of shortening the round ligaments, all have an influence on pregnancy and labor and are often a cause of dystocia. The previous obstetric history must be considered.

In illustration, one woman whom I will present to you this morning, has a history that is significant. Her first baby was delivered in this hospital by a craniotomy, after many hours of labor, and several ineffectual attempts at forceps, before she was brought in by the ambulance. When she became pregnant and fell in labor for a second time, she came into the hospital and Dr. Beck did a Cesarian section and delivered her of an eight-pound child. The third pregnancy was under the care of our out-patient service and when she arrived at term she was sent into the hospital and Dr. Matthews delivered her by Cesarian section, two weeks ago. The child weighed eight and one-half pounds. Her pelvis is inadequate for the passage of a full-time child. If she had a six-pound child her pelvis might be sufficiently ample for a normal delivery. She has a flat pelvis of the borderline type. This is known to us and to her and now she knows how to be delivered safely. We next pass to the history of the previous puerperia. What was the character of the convalesence? If the previous puerperium was septic, we must be guarded as to our prognosis in this labor, as it may be said that the streptococcus never dies. I remember a woman in the Jewish Hospital who developed a general pyemia with streptococcic foci in the joints and lungs and an endocarditis. She finally recovered. When she left the hospital I said to her, "If you are ever to be confined again, do not let a doctor examine you, but come directly to the hospital when you fall in labor." She said she would, but she did not keep her promise. When she was confined the next time, it was at home. She then became conscience-stricken, and I was sent for immediately after the delivery. The doctor who was in attendance said that the baby was born spontaneously before he arrived, and that the placenta had come away with Crede's expression. He said he had not touched her nor made any examinations, because of the advice I had given to the woman. We removed her to the hospital and in forty-eight hours she developed sepsis, a streptococcemia, and died sometime later. Crossen has said that streptococci may be buried and dormant any number of years. In the case just recorded, the rekindling may be explained in this manner. The original lesion began in a bilateral laceration of the cervix extending into each parametrium, in which an exudate formed. This absorbed and the cervix tears healed, only to be reopened again at the subsequent labor, with spread of infection from the latent foci.

Headaches during pregnancy deserve the most painstaking investigation and are frequently one of the prodramata of toxemia, when associated with high blood-pressure, albuminuria or indicanuria, and constipation. When occurring without this toxemic syndrome, the ophthalmologist should be consulted, for fundal changes may be found. Frontal headaches especially during the mid and last trimester, should always be regarded with suspicion.

We next ask the date of the last menstruation. Not every woman knows this date, for conception may occur during lactation, and in some cases it occurs soon after delivery. Other women bleed for several periods after conception, hence the accuracy of this date may be valueless. From this we go on to the date of quickening. This is a subjective symptom, the feeling of life at mid-pregnancy. As a matter of fact, it varies much in different women and may occur anywhere between the sixteenth to the twentieth week, four and a half calendar months or five lunar months. Fetal movements (choc fetal) as an ausculatory sign, may be recognized as early as the sixteenth week.

We have now examined the teeth, mouth, tonsils, thyroid, heart and lungs, and such other data as is necessary to make up the history of the particular patient, and now we come to the actual examination, which should begin with the breasts. I will present to you a patient, a multipara, so that we may demonstrate the conditions as we speak of them. This patient presents to us a typical multiparious breast. It has lost its firmness and it is dependent, for it has been suckled. We note the primary areola with its elevation and follicles, the secondary areola showing a series of washed out spots at the periphery of the primary areola. The breasts show secretion, which in a primapara would be serious, but because she is a multipara, we find actual milk. To recapitulate, these breasts show the signs of pregnancy, the elevated areola, the Montgomery's follicles, erectile nipple, secretion of milk and secondary areola. Some women cannot suckle their babies because of the character of the nipple and its condition hence the nipple should be inspected. The nipple should be bathed with soap and water daily, and annointed with sterile lanoline. This should be begun about six weeks before delivery. Before this the simple cleansing of the nipple with soap and water is sufficient.

The abdomen should then be exposed and an investigation of the abdominal signs made, to determine if the enlargement is really a pregnancy. In this case we have a central tumor which rises to about the umbilicus. We have a tumor which coming from the pelvic is in all probability uterine in origin. It is smooth in contour, contracts intermittently, and fetal parts can be detected during relaxation. In this woman we find the fundus, just at the umbilicus, and according to the ordinary history of proportionate development, she should be about six months pregnant. We will estimate the period of her pregnancy by using McDonald's rule. Measuring from the summit of the pubis to the top of the tumor, we find it to be 19½ centimeters. The uterus grows at a rate of 3.5 a month (lunar) after the fifth month, consequently if we divide the height of the fundus, i. e., 19.5 by 3.5 cm. we will find the number of lunar months she is pregnant (19.5+3.5=5.56). Five months and two weeks is the period of gestation. This method of estimating the period of pregnancy is available from the fifth month to term. Another way is to follow the linea nigra in its relation to the growth of the tumor to the ensiform cartilage. The tumor and linea progress together in the primipara, provided the linea is not lost in the umbilicus. If it is at the ensiform, and the fundus has dropped by the presenting part sinking into the pelvis, we know the pregnancy is in the last week or a few days before delivery. In this case we have a tumor in a central position which alternately contracts and relaxes. Palpation detects the fetal parts, while auscultation locates the fetal heart and the choc fetal. Pregnancy is the only condition in which there is a regular contraction and relaxation of an abdominal tumor. In hydatids, in hydramnios, it is not present or if it is, it is not so marked.

Is this a pregnancy? We can positively determine this by detection of fetal parts, the fetal heart and the choc fetal, which is the auscultation of fetal movements, all of which are present. Right here, to the right of the median line, we find the fetal heart. Few practitioners appreciate with what ease presentation and posi-

tion can be determined by abdominal examination, if one knows what one is looking for. Not only is it possible to make the diagnosis by abdominal touch, but it is possible to follow the course of normal labor by following the descent of the head and the position of the fetal heart, which acts as an index of rotation. The adoption of a routine series of steps facilitates differential abdominal diagnosis. The presentation and position of the fetus may be made out by placing the palm of the hand on the tumor, in the median line, in order that we may force the fetus to slip in the direction of its back, with the fluid to the other side. As the fetus always slips in the direction of its back, we can readily determine where the back is. By placing the hand on the fundus, we crowd the fetus down. This curves the back outward against the uterine wall, where it may be recognized by the resistance and extent of surface. This enables us to determine the position of the small parts and back. We then examine the lower fetal pole to determine the presenting part. This is checked by palpating the contents of the upper pole. We next locate the anterior shoulder.

The fetal heart sounds are heard over the anterior shoulder, by depressing the abdominal wall and uterine wall down over this process, the solid medium allows the transmission of the heart sounds. In this case the heart is in the left lower quadrant. Its position should be marked with a cross. As the child is driven into the pelvis, the heart goes lower and comes nearer to the median line. When the head has reached the pelvic floor the heart should be in the median line just above the pubes. One may follow the course of labor and each step in the mechanism by following the descent and inward rotation of the anterior shoulder with the heart sounds over it, at it is driven down and toward the middle line: while the dilation of the cervix may be followed by repeated rectal touch. Thus all avenues of sepsis are avoided. The steps in abdominal palpation should be followed in this order. (1) Hand in median line to divide tumor into fluid and solid content. (2) Hand on fundus to crowd fetus down and arch back against uterine and abdominal wall. (3) Locate the content of lower pole. (4) Locate content of upper pole. (5) Locate anterior shoulder by coming up from head, finding the sulcus of the neck. The shoulder is the first prominent point above. (6) Locate heart over the anterior shoulder.

After determining the presentation and position by abdominal palpation, the next step is mensuration. There are certain diameters that are definite as well as those that are merely suggestive Earlier in the hour I spoke of spanning the forearm with the thumb and little finger abducted—as a sign of Justo minorpelvis. This may be accepted in nine cases out of ten, except, of course, a few patients who have very small bones throughout. The first of the definite measurements is the iliospinal, which I will measure in this woman, and I find the measurement from the outer margin of the spines is 25 centimeters. The measurement from the crest show 27 centimeters. The normal measurements are 26 and 29, respectively. This woman's pelvis measures 25 and 27. We then measure from the trochanters, which in this case is 31 centimeters, a normal measurement. If this woman had a short leg, if she had scoliosis, if she were a hunchback, we would take the oblique measurements, the external obliques of either side and compare them, but it is not necessary in the normal case. Here the obliques are 22½ and 22½. The oblique measurements are only significant and important where there is some asymmetry. They are suggestive of anomalies of contour. The next observation we make is the rhomboid of Michaelis, a diamond-shaped depression formed by the dimples of the posterior superior spines of the ilea, the lines formed by the gluteal muscles and the groove at the end of the spine, which is not well shown in this woman. Here are the dimples corresponding to the positions of the posterior spines of the ileum. These are the posterior points from which we take the oblique measurements. The anterior superior spines are the anterior terminals. The left oblique runs from the left sacro-iliac joint to the right anterior superior spine. Anomalies of the rhomboid of Michaelis are to me one of the most suggestive signs of contracted pelvis. The presumptive diagnosis is borne out by the actual measurements. The rhomboid is diamond shaped with the longest diameter running longitudinal. In the rachitic type the transverse diameter is the longer. Observations of the rhomboid should be made with patient standing.

The external conjugate is next measured from a point midway between the two posterior superior spines to the most prominent point on the front of the pubis. In this case it is 19 cm.

We have now the suggestive measurements at the brim, but the brim is not all There is the cavity. We have come to learn that the most important thing in a very large number of cases is the outlet. As the head comes down, if the pelvis is normal, it pivots at the subpubic arch. If the outlet is narrow the head as it pivots, is pushed backward along the pubic rami and there is more pressure on the sphincter and rectum. I have never found a woman with the sphincter torn except she had a contracted outlet.

No pelvic examination is complete unless we have measured the bisischial diameter. The easiest way to do this is to have the patient's thighs flexed on the abdomen and measure the distance between the two ischial tuberosities, and I find the measurement here to be 9 cm. The normal is 10 cm. Nine is ample if the posterior saggital is compensatory. In order that we may be sure that the child will come out through a bisischial diameter of 8 or 9 cm. the posterior saggital should be 7 or more, which compares well with the ordinary head circumferences of the child.

I want to call particular attention to the diagonal conjugate which is in reality the only brim measurement, for from this is estimated the true conjugate. This diameter is apt to be inaccurate because it cannot be taken properly. It is taken from the promintory of the sacrum to the subpubic arch. The estimated true conjugate depends upon the thickness, depth and inclination of the symphisis and a deduction of one and a half to 2.5 centimeters must be made from the actual length of the diagonal.

The patient I now present to you was operated upon by Dr. Beck, who did a Cesarian section. Notice that the greatest breadth of her rhomboid is the transverse, the shortest, the longitudinal diameter. The rhomboid is the first thing in this woman that suggests a contracted pelvis. The books make very little mention of this, but it is a very significant suggestive sign. This woman has had two Cesarians. We will check up her measurements; iliospinal 23 cm., iliocristal 27 cm.; external conjugate 17 cm. This woman has a simple flat pelvis. How do I know this. Because the relation between the iliospinal and iliocristal measurements are 23-27 instead of 25-25 or 27-27. This shows the simple flat pelvis. If she had a rachitic flat pelvis the iliospinal would be equal to or greater than the iliocristal.

This next patient has a systolic blood pressure of 185 to 190 with albumin and all the other signs which go with a toxemia. We have employed the usual prophy-

lactic measures. We have cut out the proteids and given her what I consider the most important item in treatment, *rest*. She has had only milk and starchy foods and the pressure has dropped. When she came in her pressure was 220 systolic, over 145 diastolic. Under treatment it dropped nearly 30 points, but has risen again. She is almost at term, but the pressure is too high. She is not safe. If she is not delivered she will explode and have a convulsion. We will induce labor today. In her case we have used colonic irrigations of bicarbonate of soda, as well as rest. The rest alone should have brought down the pressure. At it has not, we must relieve her intra-abdominal pressure. The late Dr. James McLane used to say, "Rupture the membranes and you will get a reduction of blood-pressure." It does it by reducing the intra-abdominal pressure.

Before inducing her, we will examine this woman to estimate the size of the head of the child and its relation to this particular pelvis. We divide the tumor with the hand and the dorsum slips to the right. Then with the hand on the fundus we crowd down the head and arch the back and locate the anterior shoulder and check it up by finding the heart. Here it is to the right of the median line where the heart is heard with the maximum intensity.

The height of the fundus is 30 cm., which must be divided by 3.5 to estimate the duration of pregnancy, which equals 8.5 lunar months (30+3.5). We then measure the ovoid, subtract 2 and multiply by 2. An ordinary fetus should be from 48 to 50 centimeters in length. This ovoid measures 22 cm. We subtract 2, making it 20, multiply by 2, giving us 40 cm. as the measurement of the length of the child.

One thing noticeable here is that the head has entered the brim of the pelvis. This shows us that the relation between the head and brim is proportionate. Dr. Matthews has been able to check up the expected date of delivery within a week, by taking the height of the fundus divided by 3.5 and the length of the child, as found by mensuration of the ovoid, deducting two and multiplying by 2, which gives the length of the baby in centimeters. In the normal fetus the occipito-frontal diameter is about 12 cm., from which we deduct 2 cm. to estimate the biparietal. This is the Perret method, modified by Stone of New York. In this case the head is flexed and in the pelvis and we cannot get the occipito-frontal.

In using the pelvimeter we put a piece of adhesive plaster across the index and middle fingers, and put the pelvimeter against the plaster between the fingers. Then with the fingers locate the ends of the occipito-frontal diameter. If we find the measurement is 12 or more, we deduct 2½. If it is 11 we deduct 2. If less than 11, 1.5 is deducted. You are apt to say, "How can it be correct when you do not know the thickness of the abdominal wall?" It is not positive, but in about 70 per cent. of the cases when we check it up afterwards, it does not vary by more than half a centimeter.

A METHOD OF DETERMINING GASTRIC MOTOR EFFICIENCY.

ALBERT F. R. ANDRESEN, M.D.,
Brooklyn, New York.

Patients with persistent vomiting due to pyloric stenosis or hour-glass constriction of the stomach, are often in such poor condition when coming under skilled observation, that operation is extremely dangerous, if not actually contraindicated. The efforts to improve the condition of such patients by rectal alimentation are often unsatisfactory, and the mortality from these operations is much higher than it ought to be for the simple gastro-enterostony usually performed. Where the obstruction is not too tight to admit of the passage of a duodenal tube, duodenal feeding often solves the problem. After a course of such feedings, combined with transfusion and hypodermic tonic treatment, a rapid operation under local anaesthesia often saves lives which might otherwise have been lost.

There are cases, however, in which the duodenal tube will not pass the obstruction, and yet careful observation by Roentgen ray or by tube, demonstrates the fact that the stomach can gradually evacuate small quantiies of its content into the duodenum. If such a stomach is overdistended with food, its muscle power is so weakened as to be unable to express any contents. It is obvious, however, that if it could be accurately determined how much fluid the stomach could evacuate in a given time, the feeding of just such quantities of highly concentrated liquid food at the required intervals, combined with the rectal administration of sugar solutions, would do much toward building up a debilitated patient. The feeding of the small quantities, by encouraging gastric motility, would also tend to improve gastric tone.

For the past few years the writer has employed a method which will determine with accuracy the gastric motor efficiency as outlined above. A Rehfuss gastric tube is passed into the stomach, a thorough lavage done, and the stomach emptied. Incidentally, it may be noted that the only method by which a dilated stomach can be emptied is by means of a flexible tube like this, whose metal tip will fall by gravity to the lowermost part of the organ, and remove every drop of its contents. With the stomach clean, a measured amount of warm water or of some colored solution is introduced through the tube and left in the stomach. In a severe case about fifty or one hundred mils are introduced. At the end of from fifteen to thirty minutes the remaining fluid is aspirated. If none remains, a larger quantity or a shorter interval are tried. The fluid remaining consists of the fluid administered, together with admixed gastric juice and swallowed saliva, but the difference between the quantity of the remaining fluid, and the quantity given, represents the total quantity which the stomach can take care of in a given time, that is, the quantity of fluid which, when put into the stomach, will leave the stomach empty after a given time. It is obvious that if more fluid is aspirated than was put in, and this can be demonstrated to consist of all the fluid put in, together with admixtures from the stomach, the stenosis is complete, and no feedings can take place through the stomach.

The gastric motor efficiency can be represented by mils per hour, or, better, by mils per quarter hour. The determined quantity of a concentrated watery solution of dextrose or other sugars, albumin, peptones, proteoses, or alcohol, can be given at the required intervals. Oils, which tend in some cases to interfere with peristalsis, should be used only with careful testing of results.

The writer has found that, in cases of dilated stomach, the quantity given at each feeding can gradually be increased as shown by subsequent tests, thus demonstrating that the muscular tone of the stomach wall is improving. In a case of linitis plastica, in which the small, contracted stomach was found to hold only thirty mils of fluid at a time, the writer found that in fifteen minutes after its introduction the stomach was empty, and by feeding this patient thirty mils of concentrated food as outlined above, at a time, and giving five per-cent dextrose solution by Murphy drip, he was able to

(*Continued on p.* 137.)

PERSONAL HISTORY OF APPLICANT FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, UNITED STATES ARMY.

Give your name *in full* (including your full middle name):.....

The date of your birth:..... The place of your birth:.....

When and where were you naturalized (if of alien birth)?.....

Are you married or single?..... Have you any children; if so, how many?.....

What is your height in inches?..... Your weight, in pounds?.....

Give the nature and dates of all serious sicknesses and injuries which you have suffered:.....

.....

.....

.....

Do you labor under any mental or physical infirmity which could interfere with the efficient discharge by you of the duties of a medical officer?.....

If either parent, or brother, or sister has died, state cause and age in each case:.....

Do you use intoxicating liquors or narcotics; if so, to what extent?.....

Have you found your health or habits to interfere with your success in civil life?.....

What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:.....

.....

.....

Name any other educational advantage you have had, such as private tuition, foreign travel, etc.:.....

.....

Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:

.....

With what ancient or modern languages or branches of science are you acquainted?.....

When did you begin the study of medicine, and under whose direction? His residence?.....

.....

How many courses of lectures have you attended? Names of colleges and dates:.....

.....

When and where were you graduated in medicine?.....

(Fill this out and send it to the Surgeon General, U. S. Army, Washington D. C.)

Have you been before a State Examining Board? If so, state when, where, and with what result: .....

.....

Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service: .....

What clinical experience have you had in dispensary or private practice? .....

.....

Have you paid particular attention to any specialty in medicine, if so, what branch? .....

What opportunities for instruction or practice in operative surgery have you had? .....

.....

Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result: .....

Are you a member of the organized militia? If so, state with what organization and in what capacity .....

.....

Have you been in the military or naval service of the United States? If so, give inclusive dates of service with each organization, designating it: .....

In case of war or threatened war, will you accept active service for duty with the Army, should your services be needed? .....

What occupation, if any, have you followed other than that of student or practitioner? .....

Present or temporary address:† .....

Permanent residence:† .....

I CERTIFY that to the best of my knowledge and belief the above statements are true.

Signature ☞ .....

Date, ..., 191

Subscribed and sworn to before me, this .....day of .....A. D. 191

[SEAL] .....

[Signature and official title.]

†The candidate should give his present address for correspondence, and also his permanent address to which he desires commission sent should he be appointed.

FORM 149
W. D. S. G. O.
(Revised March 6, 1912)

MEDICAL TIMES
July 1, 1917

FURNISHES PERSONAL HISTORY

IN CONNECTION WITH

APPLICATION FOR APPOINTMENT

IN THE

MEDICAL RESERVE CORPS,
U.S. ARMY

Inclosure

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OF

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NEW YORK, MAY, 1918.

Heed the Plea of General Gorgas.

Major-General William C. Gorgas, Surgeon General of the United States Army, appeals to the medical profession through the columns of the MEDICAL TIMES for further additions to the Medical Reserve Corps of the Army. The reasons set forth in the General's statement are cogent and lucid, and he who reads has no difficulty in comprehending the reasons for this emphatic disquisition.

The United States is engaged in a war which must be won if it is to maintain its national integrity. Failure means national ruin. Victory means that the world will be made a decent place in which to live, for all men of all creeds and for nations both great and small. To win we must have enormous armies, and success can only come to those armies which are composed of healthy men. Our army MUST HAVE PHYSICIANS in ever increasing numbers. We believe that when the medical profession realizes the true import of General Gorgas' letter, it will come forward splendidly. There is one stumbling block to many physicians, and that is the pay which is offered a first lieutenant. The average medical man is not interested in rank, except as it carries necessary authority. His first lookout is that his income may be sufficient to meet his overhead charges and take care of his family during his absence.

It would be far better, in the minds of very many men, if physicians, called to the colors, who have been in practice five years or more, could be commissioned captains at the outset. The additional pay would go some distance in aiding them to meet their necessary expenses. Many a physician has been deterred from going into the service because he would be unable to pay his expenses on a first lieutenant's pay. A considerable number of physicians, who do not own their houses, live in leased houses or apartments. As it is necessary for a medical man to have his residence established and not change frequently, it is the custom, to take these places on long leases, and even though the head may be in the service, the family must continue to live in this home.

In the average sized city it is difficult to obtain a suitable place for a physician for less than $1,200 a year, and on first lieutenant's pay this only leaves him $800 a year to pay the expenses of himself and his family. It is common belief that if men who have been in practice for a time, and who, consequently, have certain fixed charges which must be met whether they are at home or away, could be given the pay of a captain, there would be an even larger outpouring of physicians into the Army than has been the case heretofore.

We are all called upon to remember this point: If we do not come forward and do our bit, we detract just so much from the efficiency of the Army and make victory harder to gain. If physicians prefer German to American domination, they can attain their end by holding back and not serving the country in its time of necessity. We do not believe, however, that such a contingency is possible, and there is no doubt that when the medical profession realizes the wishes of General Gorgas, they will flock forward for service under the **flag.**

The Snap Diagnosis.

The snap diagnosis is always a hasty conclusion or guess, never a scientific deduction drawn from observation and the determination of the value of symptoms and their relation to each other. Rarely does a physician possess the happy faculty of taking in a number of symptoms at a glance and by a few well directed questions while counting the pulse, arrive at the probable and often the correct pathological conditions present. While such knowledge comes almost intuitively, it is only one who is thoroughly familiar with anatomy, physiology and pathology and one who has had a large experience in practice who can apply his rapid observations to make a correct diagnosis.

Some diseases give pathognomonic symptoms which are obvious to the tyro. It takes but a moment to recognize the facial expression, attitude and gait of advanced paralysis agitans, the pitch of the leg and the uncertain step of locomotor ataxia, the sudden cry, fall and convulsions of epilepsy, the expression of intense fear and agony while the patient tears at his breast, as seen in angina pectoris. Unfortunately there are but few diseases presenting such immediately obvious pathognomonic symptoms. In most cases the usual diagnostic methods, inspection, palpation, percussion and auscultation, singly or combined, must be employed to arrive at a probable diagnosis. But often these fail to clear up doubtful points, and the history must be considered before a definite conclusion can be reached, and even then we are frequently undecided until the resources of the laboratory are employed.

Notwithstanding all these aids to diagnosis, the refinement in diagnostic methods and the host of diagnostic appliances, Cabot's exhibit of diagnostic errors, proven by 3,000 autopsies, ranging from 5 per cent. in diabetes to 50 per cent. in chronic interstitial nephritis, and to 84 per cent. in acute nephritis, is humiliating and appalling. The diagnoses in these cases were made by competent men supplied with all the diagnostic aids at the command of a well equipped large hospital. There

was probably not a single hasty diagnosis made in the whole number, yet in many cases a diagnosis by intuition, unscientific as it would have been, probably could not have been further from the true condition than the diagnosis obtained with all the diagnostic aids in hand.

The ability to make a hasty diagnosis through rapid observation and determination of the relation of symptoms to each other is a valuable asset to the physician, but he can seldom be certain that his diagnosis is correct, unless there are pathognomonic symptoms, unless his deductions have been corroborated in the laboratory, or until by the process of exclusion he has surely eliminated every other disease which might present some of the symptoms present.

I. L. NASCHER.

Can We Scrap Our Own Spiritual Potsdam?

The extraordinary services rendered by women in the course of the war are aiding immensely in the strategy of their movement for full recognition as human beings upon other than sex grounds.

This recognition must be speedily accorded if our social development is to proceed rationally and if certain protestations made by our Government are something more than mere rhetoric for the continued narcosis of justly restless groups.

In a general way, reform will alter the status of the married woman from a kind of chattel to that of a human entity. The old common law idea, which held woman to be man's property, will be given a knockout blow.

Politically, women will bear a direct relation to the state, and not an indirect one through their husbands.

Through her industrial contribution woman will continue to aid increasingly in national development upon a basis of equal pay for equal work.

Coming to our point, we should like to know how much longer women are to be denied certain professional rights, particularly in the medical services of the Government, with all the rank and duties associated therewith.

The fact that two medical women have actually served as such in the United States Army—Dr. Anita Newcomb McGee and Dr. Kate B. Karpels—establishes the justice and necessity of such appointments. The precedent exists.

While reactionaries hesitate to give our professional women a square deal the women prove their resourcefulness and capability by organizing great relief movements of their own in the stricken zones in Europe. In those zones the need for women doctors is "appalling," and so 2,500 of them have applied for overseas service. Fifty have been sent to Europe during the past few months. They wear military uniforms, are doing work in certain branches of the service just as capably as their professional brothers—but they are uncommissioned. Fifty more will be sent before summer. It is hoped that at least five hundred will be in the field ultimately.

Such women as Dr. Elsie Inglis have demonstrated executive ability of a high order in the field. She was the founder of the Scottish Women's Hospitals for Foreign Service and organized French, Corsican and Greek units, serving personally in Serbia and Roumania, and finally sacrificing her life in the work.

By June first the American Women's Hospitals will have sent over more than a hundred women radiographers, laboratory workers, oculists, aurists, tuberculosis specialists and anesthetists. They will work chiefly in clinics and hospitals where the stricken civilian population is cared for. Women and children will be their especial care.

The high order of medical service which these women will render abroad will make the reluctancy of the powers that be to enlist and commission them for noncombatant military service more and more ridiculous.

In view of what has been and is being done by women physicians in the war zones the opinion of the Acting Judge Advocate General—"I think women physicians would not have the physical qualifications which would be required"—seems quite banal. If a peculiar capacity to bear pain, discomfort, fatigue, hemorrhage and shock, and the possession of infinite patience, constitute disqualifications, then our medical women should give up their dream of equal recognition for equal work.

The simple truth about the whole business is that women have done the work but have not had the recognition.

Would the divine patience that tolerates a patent injustice so hopefully, and the indomitable spirit of service that goes ahead just the same, be of no use in the medical services?

"Women must be held in leash by economic dependence," say those who believe that might makes right and who fear competition upon an equal plane.

Medical women must be held in leash by arbitrary exclusion from the more important professional activities, say our scientific Junkers.

Can we scrap our own spiritual Potsdam?

The Comparative Costs of Military and Industrial Warfare.

Rubinow has recently submitted a statistical consideration of the number of men crippled in war and disabled in industry which furnishes much food for thought. His study appears among the publications of the Red Cross Institute for Crippled and Disabled Men of New York City.

The total fighting strength of the belligerents has averaged about 20,000,000. The average monthly loss per 1,000,000 men equals about 9,250 in killed and 5,250 in permanently disabled. The proportion per annum equals about 111,000 killed and 63,000 permanently disabled.

Rubinow estimates that there are about 22,500 fatal accidents annually among the 27,924,387 employees in the United States, and a total of about 1,900,000 injured. Those permanently injured number between seventy and eighty thousand per annum.

There are now about 335,433 cripples in the United States, about 35 per cent. of whom owe their condition directly to industrial accidents. Bad hygiene in the families of economically exploited workingmen accounts for the tuberculous bone disease and consequent crippling of many of the remaining 65 per cent.

Going back to the war figures, we have to multiply the 111,000 killed and the 63,000 permanently disabled by twenty in order to determine the totals for 20,000,000 belligerents. This gives us 2,220,000 and 1,260,000 respectively.

We should like to supplement the foregoing data by comparative disease statistics covering the fighting forces in Europe and the industrial population of the United States, but none are immediately available. Perhaps we can assume that the figures for tuberculosis, heart disease, rheumatism and nervous affections balance each other, or at least that the totality of disability through sickness is much the same.

The point that we should like to make is that while military warfare carries increased mortality and disability for the classes withdrawn from industrial life, we must not forget that industrial warfare never ends. Going on forever, its toll becomes in the aggregate something beside which the human cost of war is really infinitesimal.

Therefore in the judgment proclaimed by the great scales of time the reproach of tuberculosis and other industrial diseases afflicting the working class, including its women and children, remains the paramount indictment against a social order which Alfred Russel Wallace declared the rottenest which the world has ever seen.

In the total accounting of our industrial age the crime of war is overshadowed by sins whose harvest of blood and tears and death is greater by far.

After the War.

In our March issue we asked editorially whether anyone supposed that under the new social order that is to follow the war such makeshifts as health insurance will be tolerated for a moment by a free and economically well-ordered peope, with a keen recollection of the Prussianistic degradations that the retainers of the privieged classes once sought to foist upon them. We also declared our conviction that it is to our returning soldiers that we must look for the scrapping of the palliative devices of civilization in the abominable service of which certain uplifters would enlist the medical profession.

We are glad to note that President Wilson, in his recent letter to the Democracy of New Jersey, writes as follows:

"The men in the trenches who have been freed from the economic serfdom to which some of them have been accustomed will, it is likely, return to their homes with a new view and a new impatience of mere political phrases and will demand real thinking and real action."

Should Our Civilization be Scrapped?

Charles W. Burr says the test of sanity is, are the man's thoughts and acts consonant with the racial and family heredity, his epoch, his education and his environment. In other words, whether an act or thought is sane or insane depends upon latitude, longitude, race and time. Then, if ever our competitive social order were to be supplanted by a cooperative one some of the types now classed as insane would be sane, because they would be able to adjust themselves to their environment, and conversely, some of the types who now distinguish themselves as successful competitors would find themselves under restraint and would be regarded as insane.

Ideas of persecution, confusional states and other "aberrations" are often grounded upon inability to meet the prevailing social stresses and strains, which of course involve competition. We do not have to assume that a cooperative society would be composed of weaklings, however, since certain constructive powers would come into play in such circumstances, and also abilities to meet strains of a different sort. Oliver Wendell Holmes somewhere in his writings (Autocrat?) expresses the conviction that great qualities lie shattered in many of the insane, because too fine for this world as now constituted.

It would not be altogether a bad state of society in which a group of men such as those who constitute the German government would be so placed as merely to furnish an interesting lot of asylum patients. Their delusions of grandeur, world dominion, partnership with God Almighty, and their resort to crimes of violence would then be regarded as sufficient reasons for a cooperative society to protect itself instinctively and automatically against them. We now regard this group as a criminal aggregation, because we judge them in terms of the present social order. We think of them as brutal competitors, simply overworking the forces that we think ought to be used in moderation, but is not even our moderation irrational in essence? Is it not merely a fatuous fancy to suppose that this thing we call competition can be so regulated as to fall just short of brutality and lunacy? Is not the world simply swamped with frightfulness due directly to competition in its familiar and orthodox forms? Surely it is not necessary to particularize. What has called forth such literature of protest as Shelley's Masque of Anarchy, Swinburne's pleas for liberty, and Emerson's Boston Hymn, not to mention the radical press of the day, if it is not the results of our competitive system?

We should like to be examiners in lunacy in a cooperative society. It would be a most enjoyable job. The palace at Potsdam would make an ideal asylum in which the beginnings of a revolutionary policy might be made. Even criminal lunatics would be treated humanely under our imagined dispensation, just as they are now. Surely the new order would not be characterized by less enlightenment than the old and thoroughly rotten one.

Does anyone think that the Kaiser type of man could meet the strain of decent human cooperation without breaking down? Or certain other types of men in our own vicinity whom it might be considered lese-majesty to name?

We suggest that the alienists prepare a textbook for the guidance of the social order that is to be.

The Law of Economic Determination of the Birth Rate.

The birth rate of a country represents the effect of economic laws. Where the standard of living is high the birth rate is low.

Bertillon has shown that "the order of size of the family is invariably the reverse of the order of the economic condition."

Since economic status is definitely related to efficiency and social worth we must expect to find a low birth rate in the best equipped groups.

A high standard of living makes for good hygiene and sanitation, longevity and the salvation of the children in small families.

There has been no biological deterioration in France, whose birth rate increased only 2,000,000 between 1860 and 1900, whereas poverty-stricken Russia, with her low standard of living and very high birth rate, has not successfully withstood trial by fire and blood and iron as has France.

All highly civilized countries, with proper standards of living, show low birth rates, for example, New Zealand, Australia, Switzerland, Holland and Sweden.

A generally low birth rate would tend to prevent war. The human rabbit hutch known as China is a menace because of her vast and increasing population. In 1800 Germany had a population of 23,000,000. In 1900 her population had grown to 65,000,000. Her imperialistic dreams and her industrial and military program have been based upon numbers. Had she ordered her affairs

like the intelligent Dutch, instead of accepting the guidance of a criminally ambitious group, the world would have been spared its blood bath.

Overzealous advocacy of a high birth rate suggests a lack of information or frank furtherance of essentially vicious social and economic conditions, upon which progress is fatuously supposed to depend. The industrial slave driver, imperialist and militarist represents a breed by no means peculiar to Germany. His desires with respect to the world's birth rate must be frustrated if ever the world is to have peace.

There is now a strong movement in the United States looking to improvement in housing conditions for the working class. It is realized that the environment of men goes far toward determining their efficiency. The tenement appears actually to be doomed. The dwellers must have better and more food, more air and sunlight and greater prosperity. All this attention arises out of the facts that there is a labor shortage due largely to interrupted immigration, and that the backbone of an army consists of workers who, if they are to be fit, must have had decent childhoods. It is seen that the saviors of France are the sons of the poor.

The propagandists of reform ignore the law to which we have called attention, namely, that in proportion as economic conditions are improved the birth rate is lowered.

England furnished an interesting object lesson when she gave up the foreign slave trade and enslaved instead her own yeomanry industrially. Merrie England had had a rational birth rate, but the brutalized workers soon achieved a high one.

So sensitively does society react to the law of economic determination of the birth rate that the efforts of the reformers to whom we have alluded must seem hazardous and ill-advised to reactionaries with a glimmer of intelligence.

You cannot have really decent conditions of life for all and at the same time maintain industrial and military armies.

Let Faust cogitate this problem, while Mephistopheles leers.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

De Mortuis Nil Nisi Bonum.

Dr. Munyon—who was not a doctor at all—is dead. The famous right index finger has been lifted for the last time. For the last time the celebrated lips have framed the magic words: "There is hope!"

S. B. Hartman is also dead. Weep! all ye who have been uplifted ethylically by Peruna.

Add Munyon and Hartman to the Hall of Fame: Apollonius of Tyana, Valentine Greatrakes, Cagliostro, "Spot" Ward, Joanna Stevens, Mesmer, James Graham, John St. John Long, the Zouave Jacob, Dowie, Old Father John, and Duffy of the famous Malt.

Romantic figures, after all. Dragon slayers extraordinary to the populace; democracy's gods of health.

Humorous figures, as well. Are we not indebted to them for a whole literature, illustrated by sclerotic statesmen and paretic clergymen?

Munyon was nothing if not versatile. He was in turn school teacher, lawyer, social worker, editor, song writer and patent medicine manufacturer. He started life with "virtually no capital except ambition and a belief in the value of letting folks know about it."

It must be said for him that he spent his many millions in generous public and private gifts.

And he was probably the most unostentatious of philanthropists.

The False Doctrine of Human Alikeness.

Sometimes we suspect that all the young are not essentially alike in their psychology. One somehow gets the impression from the authorities and the textbooks that the psyche develops in much the same way in all human beings—that all Johnnies and Jennies become enormously preoccupied with sexual problems, for example, at a certain age; that then there is a long period during which sexual matters drop out of the mind, to return again later with redoubled intensity. Rot, say we. No two people are alike psychically. What lines development will follow in a given case depend upon the kind of mind in question and upon the environment. The lines followed by a Rockefeller must have been as different as night from day from those followed by a poor parish priest. Those followed by any one of the Bolsheviki must have been totally different from those followed by a member of the Potsdam gang. We suspect the psychological development of any given human being to be *sui generis*, and that the efforts of the Ph. D.s to codify even its general laws have so far achieved only questionable results and justified a doubt as to whether there really are any general laws. Practically, we recognize the fact that "there are all kinds of people in the world," but the academic mind will not, we suppose because it cannot, admit this, which only proves that the academic mind is itself peculiar and strictly limited in its qualities and powers. Is it not conceded that to get team work, with identical emotional and intellectual reactions, in a country like our own, with its diversified racial elements and consequent unstandardization of points of view, is extremely difficult? The reasons lie far back in the child life of the people, a life in which the psychological elements of the human kaleidoscope have been totally different in kind.

This business of attempting to chart very simply the mode of development of the human psyche is good sport but doubtful science. It seems akin to the extreme democratic doctrine which postulates the equality of all men at birth and their essential alikeness thereafter.

Nature has screamed the political significance of psychological differences to us, but meantime we have insisted upon national provincialism and ordained that people resembling one another in a general way—ethnically, as we say—must goose-step together, and worship a dynasty together, while all the time they are vastly unlike one another except in blondness and some other physical details. In America we are trying what is called an experiment in democracy, but is really an experiment in heterogeneity. Its success depends upon a reasonable degree of anarchy; its failure waits upon Federal prohibition and divorce laws and certain other compulsory measures whereby we fondly hope to make our people truly alike as well as merely to act alike.

When we say success we of course mean spiritual, not material, success. But we must never mistake fine phrases, masking rottenness, for genuine spirituality. The flowering of art, the healing of the sick, the supplanting of charity by justice, the acceptance of the fact that men are not alike and the shaping of our educational and political systems thereby—such are some of the things that would denote spiritual conquest.

(*Continued from p.* 130.)

administer over one thousand calories of food in twenty-four hours to a moribund, dried-out patient, and get her into condition to stand an operation. Similarly, in several moribund ulcer and carcinoma cases, these feedings have produced sufficient improvement to warrant operation, and the writer has now four such cases living and well, from twelve to eighteen months after operation.

This method is very simple, even the weakest patient being able to keep the stomach tube in for considerable lengths of time if necessary. Although its use is limited to a very small group of cases, the writer feels that his success with this procedure has been sufficiently marked, in the types of cases mentioned, that he may be pardoned for reporting it.

219 Berkeley Place.

Correspondence

The Need of More Medical Officers.

From the Surgeon General, April 8, 1918.

To the Editor of THE MEDICAL TIMES:

Subject Medical Reserve Corps:

1. I wish to call to the attention of the profession at large the urgent need of additional medical officers. As the war progresses the need for additional officers becomes each day more and more apparent. Although the medical profession of the country has responded as has no other profession, future response must be greater and greater. The department has almost reached the limit of medical officers available for assignment.

2. I am, therefore, appealing to you to bring to the attention of the profession at large the necessity for additional volunteers. So far the United States has been involved only in the preparatory phase of this war. We are now about to enter upon the active, or fighting phase, a phase which will make enormous demands upon the resources of the country. The conservation of these resources, especially that of manpower depends entirely upon an adequate medical service. The morning papers publish a statement that by the end of the year a million and a half of men will be in France. Fifteen thousand medical officers will be required for that army alone. There are today on active duty 15,174 officers of the Medical Reserve Corps.

3. Within the next two or three months the second draft will be made, to be followed by other drafts, each of which will require its proportionate number of medical officers. There are at this time on the available list of the Reserve Corps, an insufficient number of officers to meet the demands of this draft.

4. I cannot emphasize too strongly the supreme demand for medical officers. Will you give the department your assistance in obtaining these officers? It is not now a question of a few hundred medical men volunteering for service, but it is a question of the mobilization of the profession that in the large centers of population and at other convenient points as well as at all Army camps and cantonments, boards of officers have been convened for the purpose of examining candidates for commission in the Medical Reserve Corps of the Army. An applicant for the Reserve should apply to the board nearest his home.

5. The requirements for commission in the Medical Reserve Corps are that the applicant be a male citizen of the United States, a graduate of a reputable school of medicine, authorized to confer the degree of M. D., between the ages of 22 and 55 years of age, and professionally, morally and physically qualified for service.

6. With deep appreciation of any service you may be able to render the department, I am,

W. C. GORGAS,
Surgeon General, U. S. Army.

In promoting oxidation, increasing blood-pressure, enhancing metabolism and producing effects virtually the same as adrenalin, there is little or no difference between ovarian and testicular extracts.—(*Metabolist.*)

War Medicine and Surgery

A Gas Gangrene Antitoxic Serum.

A demonstration of an antitoxic serum for the prevention and treatment of gas gangrene was recently given by Maj. Carroll G. Bull, M. R. C., U. S. A., at the Royal Army Medical College. Major Bull's experiments, which were begun in America and are now being continued in England, have been made with *Bacillus welchii*, which appears to be the organism chiefly concerned in the production of gas gangrene. Cultivations were started from cases occurring in the United States and on the Western front, and also from saprophytic sources, and care was taken to establish the identity of the organism. Its growth in culture is attended by the production of acid, and one explanation that has been offered of the effects produced clinically is that the acid liberates proteolytic ferments; another explanation is that the production of gas leads to the introduction of toxic proteins into the general system; a third is that the process known as gas gangrene is capable of spreading only after the death of the tissues involved. Major Bull, however, has produced strong evidence that the pathological process is produced by a bacterial toxin. He has obtained such a toxin in cultures of twenty-four hours. This toxin, when injected into animals (pigeons and guinea-pigs), produces local oedema and necrosis, and a general effect characterized by haemolysis and degeneration of the red cells, which, in the kidneys, for instance, choke the tubules.

An experimental inoculation of the toxin in animals was found to lead to the production of antibodies. The culture medium used was beef broth with 0.2 or 0.3 per cent. glucose, to which fragments of fresh muscle were added at the time of incubation. After eighteen to twenty-four hours the tubes were centrifuged, and the fluid, subsequently passed through a suitable filter, was bacteria-free. The toxin used was so powerful that 2 c.cm. of the fluid would kill a horse after producing local lesions; the potency of the filtrates declined when the period of incubation was prolonged beyond twenty-four hours. For the production of an antitoxic serum a dose of 1 c.cm. was used in a horse, producing a reaction which had subsided in about four days, when the injection was repeated. It was found that the toxin could be exactly neutralized by the antitoxin *in vitro*, so that injection produced no effect. After gas gangrene has been set up experimentally by inoculation with a culture a suitable dose of antitoxin will neutralize the toxin in the tissues, thus enabling them to check the further growth of the organism.

Experiments on guinea-pigs showed that preventive injection of antitoxin will prevent infection developing when the active organism is subsequently inoculated, and that the progress of an infection already started could be arrested by the injection of antitoxin after marked local lesions and general symptoms had developed; a case was related in which a boy suffered a severe injury of the forearm, followed by gas gangrene with very marked constitutional symptoms. The injection of a dose of antitoxin caused immediate improvement in the general symptoms, the temperature falling from 105 to 101 degrees, and the pulse, which had been uncountable, improving to a corresponding extent. The local process was checked and amputation was successfully performed. Major Bull concluded by saying that he believed the evidence to be sufficient to justify the use of this antitoxin in man as a means of cure, and that in the severest cases so much general and local improvement would be brought about that an operation could be undertaken without fear of local extension. At the present time six horses have been immunized at the Rockefeller Institute for the purpose of producing gas gangrene antitoxic serum, and experiments of the same nature have been begun in this country; but, as Major Bull pointed out, if the serum is to be used as a preventive or curative agent on the Western front, it must be produced either here or in France on a large scale.—(*Brit. Med. Jour.*, Jan. 12, 1918.)

Gunshot Wounds of the Chest.

Surgical interference justifies itself in direct proportion to the danger of the condition with which it deals, and it is now generally recognized how fatal are many of the gunshot wounds of the chest wall if left untreated or if treatment is delayed from any cause for more than from 24 to 30 hours after infliction of the wound. Lieut.-Col. T. R. Elliott recently quoted 10 to 15 per cent. as the minimum number which die in medical units from the immediate severity of their injury, and Dr. Pierre Duval gives even a higher figure. And the number of chest wounds on which this percentage is reckoned remains high in comparison with that of head wounds, which has fallen so markedly after the universal adoption of a steel helmet. To the pioneer work of Médecin-Chef Duval,

as well as of Col. G. E. Gask and Col. H. M. W. Gray, we owe the incentive to a more active early treatment of chest wounds; the application, in fine, to these wounds of the same principles of treatment as have been found effective in gunshot wounds of other parts. Excision of the wound, removal of broken and splintered ribs, removal of foreign bodies and blood clot, cleansing and suture of the lung, followed by immediate suture of the chest wall; these are the measures which, with skilled co-operation between surgeon, physician, and anesthetist, have proved effective in reducing the early mortality. In the happy phrase of Prof. R. Grégoire and Dr. A. Courcoux—whose monograph on Wounds of the Pleura and Lung appears at a most opportune moment—"On sait aujourd'hui que l'expectation béate est un renoncement et non un mode de traitement."

More than a year ago Major Alexander Don published in the *Lancet* a paper on Gunshot Wounds of the Chest at a Casualty Clearing Station, embodying the results of his practical experience and advocating more active treatment. Major Don was early impressed with the fact that recovery sometimes follows quite severe chest wounds, and drew the legitimate deduction that the chest cavity is not so vulnerable as we had long supposed to be. Pre-war thoracic surgery had dealt principally with the victims of malignant disease and prolonged empyema, and the experience so gained could not fairly be applied without further inquiry to the soldier in full vigor of body and in possession of admirable recuperative power. Major Don's valuable contribution was unfortunately lost in transit. In the current issue Capts. W. A. Rees and Gerald S. Hughes analyze a series of 140 consecutive cases of wounds of the chest which have come under their notice during a period of six months at an advanced operating centre. During the first few hours, after the injury primary hemorrhage is the chief cause of death, and for the severe cases, blanched and restless, treatment is in the main expectant. In the experience of these observers the blood came for the most part from the vessels of the lung and bleeding was stanched by Nature's method of pulmonary collapse, and in no case did they see severe hemorrhage from an intercostal vessel, although we believe such an occurrence not to be rare in the experience of others. In every case in which shock passed off, the chest wall was closed within 12 hours of infliction of the wound, but in only a few selected cases was the foreign body sought for and removed. Attention is rightly concentrated by Capts. Rees and Hughes upon the essential point of closing the pleural cavity against contamination from without. As Sir Berkeley Moynihan stated in a paper, read last autumn before the Clinical Congress of Surgeons of North America, in cases of open thorax the earliest and most complete effort must be made to secure closure of the wound.

Turning now to the later treatment of cases in which a missile has been retained within the chest wall, Col. Elliott, in the article which we have already quoted, gives reasons for thinking that such retention did not cripple the subject for further military service, indicating at the same time the need of more accurate information on the point. In the *Lancet*, Nov. 10, 1917, Col. R. D. Rudolf, of the Canadian army, contributed in this direction a summary of the late results of 50 cases in which *x*-rays showed the presence of a missile lying deep to the ribs. Out of the whole series only two died, in each case after an operation had been performed at a late period for the removal of the foreign body. Twenty-nine were able to return to full duty, while seven others became fit for light military work of one kind or another. Moreover, although the total number of men with retained foreign bodies in the chest must be large, Col. Rudolf never met with a case of a second invaliding from this cause. Such men may complain of discomfort, slight cough, or shortness of breath, but the symptoms are not urgent, and may in some cases not unreasonably be attributed to the knowledge that the foreign body is there. The question then presents itself: Is it wise to insist on the removal of a foreign body which has penetrated the chest wall? The answer is different according to the period at which the case is seen. When, in a recent wound, it may be presumed that the foreign body is large and has carried in with it septic material, it should be removed, as the consequent suppuration will be serious and the risk from empyema and septic broncho-pneumonia very great indeed. If, however, the foreign body is small, and its presence is only ascertained on *x*-ray examination at a later stage, and after the thoracic wall has healed, it is unwise to insist upon its removal, for if retained it seldom does harm, whereas the operation for its removal may easily be more prejudicial to the patient than its retention.—(*Lancet*, Jan. 12, 1918.)

Invest in Victory—Buy Liberty Bonds.
Oversubscribe the Third Liberty Loan.

War Wounds and the Prophylaxis of Surgical Infections.

Vincent considers that in general the bandages applied at first aid stations in war do not protect against germs which find in them no obstacle to rapid multiplication. (*Bull, Acad. de méd.*, Par., 1917, lxxvii, 136.) He considers nevertheless that it is on the efficacy of this first bandaging that the surgical prognosis of the wound depends particularly, and quotes a dictum of Dastre: "The greatest progress which military surgery can make will be the early bandaging of wounds. An organization which would realize this would render incalculable service." It is highly necessary to formulate rules for the surgical prophylaxis of war wounds. The antimicrobic struggle is so much the better armed if disinfection is early. This must be done at the first aid posts without loss of time by a preventive disinfection of the wound.

The author has been engaged in the study of such preventive disinfection of wounds since the Madagascar campaign of 194-6. He has tested the efficacy of a large number of substances, and of all of these hypochlorite of lime in weak dosage has shown itself to be the most efficacious. A series of experiments has been made by the author to determine what agents associated with the hypochlorite would give a mixture applicable to human wounds, and boric acid has been found the best. The formula of the author's antiseptic mixture is:

Hypochlorite of lime (titrated, 100 to 110 liters of chlorine) 10 gr. Official boric acid, very dry 90 gr. (To be separately pulverized, mixed with care and preserved in dry flasks.)

All wounds except penetrating chest and abdominal wounds are treated with this dressing at the first aid station. It is in no wise prejudicial to living tissue nor does it cause any alteration in them and it is perfectly tolerated. It does not obviate surgical intervention, but it helps it by the immobilization of infection from the time of placing the bandage to the moment of the operation. It keeps the patient in the condition he was in when first injured.

The author quotes a number of cases to illustrate the efficacy of this disinfectant in the case of large serious wounds. He also gives the technique. He claims that the antiseptic powder is at once a preventive, antiseptic, and hæmostatic, and the simplicity of its use renders it of vast aid at the advanced posts in war, where, according to the author, the patient's future depends on the first dressing.—(*S. G. O.*)

Transport of Wounded with Head Injuries.

Allers has studied the important question whether it is best to immediately operate upon cranial wounds at the advanced formations or to send them unoperated to the base hospitals. (*Wien. klin. Wchnschr.*, 1916, Sept. 7.) Sixty-six of these cases were operated upon at the front and then sent to the base. The results are shown in the following table:

Transported 1-5 days after operation, 6; died 6; 100 per cent.
Transported 6-10 days after operation, 7; died; 92 per cent.
Transported 11-15 days after operation, 18; died 3; 16.6 per cent.
Transported 16-20 days after operation, 11; died 1; 0.9 per cent.
Transported 21-25 days after operation, 9; died 0; 0 per cent.
Transported 26-30 days after operation, 6; died 9; 0 per cent.
Transported 31-30 days after operation, 4; died 0; 0 per cent.

This shows that transportation within the first five days after operation means certain death; while the percentage of deaths falls gradually to nothing if transportation is delayed for four to five weeks.

Experience has shown that operation in cranial wounds deferred even up to three or four days after injury still gives good results. Allers finds that operations executed within the first week give a mortality of 12 per cent. It therefore seems best not to operate at the front; but if this is done then an interval of at least ten or twelve days should elapse before the man is sent to the rear.

Allers thinks that the reason why the unoperated stand transportation better than the operated is to be found in the behavior of recent wounds. In such there is a very rapid formation of adhesions of the dura in the periphery of the injury. There is a concomitant increase of cerebral tissue as well as an increase of pressure, all of which tend to prevent diffusion of infection. But if fragments of bone, etc., are removed secretory flow and tension are diminished, and there is little obstacle to the spread of infection. Autopsy findings confirm this point of view.—(*Int. Abst. Surg.*)

Treatment of Wounds by a Solution of Soap.

Capts. Dixon and Bates of the British Army, are using soap solutions in the treatment of wounds. During the last few months they have used this dressing on 368 cases. During the same period they have treated similar cases with other anti-

septics, including eusol, hydrogen peroxide, and B. I. P. P., with the result that they are using more soap, and less of the other antiseptics.

A sample of common yellow soap was analyzed and found to contain per cent.: Water, 24.6; fatty acids, 63.0; combined alkali, 4.6; free alkali, nil; impurities, 7.8. This was considered suitable, and it was found possible to make a 2½ per cent. solution of it.

The first cases tried were small open muscle wounds in which there was no gas gangrene. After being opened up, and metal and cloth removed, the wounds were dressed with sterile gauze soaked in this solution. The dressings were left undisturbed for two, three, or four days, provided there was no rise in temperature. At the first dressing the most striking features were less pain, the unusually clean appearance of the wound, absence of pus, and the redness of the whole of the tissue—the muscle in particular.

Encouraged by the success in regard to small wounds, they tried the same treatment in larger and deeper wounds, using Carrel's tubes in the ordinary way. Here they found a difficulty with the common soap solution; it was found to be too gelatinous to flow at all well down the tubes. A 2½ per cent. solution of the B. P. soft green soap was then tried, and found to be quite satisfactory.

The results continued to be most encouraging, and compound fractures of the bones of the hands and feet, also the long bones, including the femur, were so treated successfully. Cases of penetrating wounds of the knee-joint were treated by this method, the joints being irrigated and the capsule and external wounds closed. The cases did very well.

In cases of gas gangrene the results were usually good, but in one case (buttock) a gelatinous film or glaze was formed over the affected muscles, and the treatment had to be discontinued in favor of hydrogen peroxide.

In the case where a man had similar wounds of both calves the soap solution with Carrel's tubes was tried on one side, and another antiseptic, also with Carrel's tubes, on the other. Both wounds did well, but the side treated with soap was not dressed as frequently as the other side, and when the patient went to the base his soap-dressed wound looked more like a granulating wound, and more like one that it would be safe to close than the other.

The points claimed for the soap solution dressings are that they clean up a wound quickly, the dressings are much less painful than ordinary dressings, there is a saving of labor as the dressings need only be changed every three or four days, the solution is easily procured, easily made, and cheap.

SOAP DRESSINGS.

Superficial wounds	73
Uncomplicated severe wounds involving muscle	160
Compound fractures—	
Fractures	83
Partial fractures	22
Joints	30
Amputations	14
Vessels	17
Nerves	6

—(*Lancet*, Nov. 24, 1917.)

Dressing Wounds With Castor Oil.

Revillet says castor oil has the following advantages as a dressing for wounds:

1. It does not get dry, and gauze impregnated with it does not stick to the wound. 2. Its oiliness makes the introduction or the removal of gauze drains very much easier into fistulæ or abscess cavities. 3. It dissolves alcohol, alcoholic extracts, tinctures and essences in such a way that the products, mixed with the oil, remain completely dissolved and do not precipitate. This prescription is advocated:

Essence of thyme	40 cc.
Essence of lavender	40 cc.
Essence of eucalyptus	40 cc.
Castor Oil	1 litre.

This mixture has an agreeable odor, and deodorizes the most infected wounds. It causes no local irritation and no dermatitis. It has a considerable antiseptic effect. It has a decided effect on the B. pyocyaneus. The dressings are prepared by soaking the gauze or dressing material used in the solution, and then placing it in wide-mouthed bottles which are hermetically sealed by a rubber cover. They are then sterilized in boiling water for an hour and a half.—(*Jour. de Méd. et de Chir. prat.*, October 10, 1917.)

One Good Bond Deserves Another.

Do your All—Less will be too Little—Buy Liberty Bonds.

Genito-Urinary Surgery

The Neglect of Gonorrhea.

Lieut.-Colonel E. T. Burke, at present serving with the Mesopotamian Expeditionary Force, writes of the danger which exists at the present time of attention being devoted too exclusively to syphilis to the neglect of gonorrhea. There is a tendency both for medical and lay opinion to regard gonorrhea as being, compared with syphilis, of slight national importance. In his opinion the reverse is the case. The following points summarize the position regarding syphilis:

1. The public realize the seriousness of the disease inasmuch as the infected individual usually applies for treatment early.
2. The medical profession realize the danger to the State that syphilis is, and it is prepared to assist in every way in limiting it.
3. The State realizes its responsibility in the matter, and is taking steps to deal with it.
4. Local authorities are formulating schemes to control it, to diagnose it, and to treat it, and educational campaigns are being initiated to enlighten the public with regard to venereal diseases.
5. The treatment of syphilis is specific.
6. The cure is rapid and permanent.
7. It can be stated when cure is completed and the patient noninfective.
8. Treatment causes no inconvenience to the patient, and takes up little of the medical attendant's time.

These facts reduce the menace of syphilis considerably. The danger has been appreciated and means taken whereby to combat it. Unfortunately, with gonorrhea the case is different. The disease is regarded as more of an inconvenience than anything else, the lesion being a genital one and remaining so; and thus in many cases the patient hesitates to seek treatment at the hands of his own medical attendant and too often drifts into the hands of the prescribing chemist or the quack, or treats himself with a urethral syringe and by swallowing draughts of copaiba and sandalwood oil.

An acute gonorrhea rapidly increases in severity and then—supposing that no complication has appeared—declines—and the confirmed optimism of the patient makes him believe that he is now on the high road to complete recovery. As soon as discharge and the pain have disappeared the patient imagines that he is once more in a healthy state, and resumes illicit intercourse or marital relations. In this way he may infect or cause to be infected a great number of people. The national danger of a man suffering from a gleet is enormous. The rate of progression is geometrical, for if the original patient infects only one woman she may in turn infect several men, each of whom may infect another woman, and so on.

The fact that the public have not appreciated the importance of gonorrhea has reacted on the medical profession. There has generally, been no great interest taken in the disease. Few practitioners have much experience in its treatment, and, with the exception of gonorrhea arthritis, it seldom appears in the wards of a general hospital. The treatment of gonorrhea is something more than the treatment of its symptoms. Cure is not attained until the urethra is completely free from the gonococcus. In the vast majority of cases treated no attempt is made to ascertain as to the presence or absence of gonococci, but the patient and the medical attendant rest satisfied with the disappearance of the grosser symptoms.

The difficulty both of diagnosis and treatment of gonorrhea in the female is enormous, and it is safe to attribute a great deal of gynecological trouble to former undiagnosed and untreated gonococcal infection. The following points summarize the present condition of genorrhea:

1. The public are uneducated as to the importance of the disease.
2. The medical profession are not so well educated regarding diagnosis and treatment of gonorrhea as of syphilis.
3. There is no specific treatment.
4. The best treatment is expensive and demands a skill and an amount of time not at the disposal of the general practitioner.
5. To state when the patient is non-infective is extremely difficult.
6. Under inefficient treatment the disease becomes chronic and the patient, unknown to himself, remains capable of infecting others.
7. Gonorrhea in the female often goes undiagnosed and treatment is notoriously difficult.
8. The prevalence of treatment by chemists, quacks, and the patient himself constitutes a great danger.

For these reasons, which apply with special force only to

gonorrhea in contra-distinction to syphilis, Colonel Burke holds that the former disease ought at the present moment to be regarded with greater anxiety than the latter. It is now, when the machinery is in the course of erection for dealing with the whole problem, that the claims of gonorrhea should not be lost sight of as they have been in the past.—(*Lancet*, Dec. 22, 1917.)

Treatment of Gonorrhea in Soldiers.

Carle publishes the details of his method of treatment of gonorrhea.

In the absence of lymphangitis, definite cystitis or bleeding from the urethra, he prescribes injections of permanganate of potash, 25 c.g. to the litre, three times a day, whatever the date of onset may be or however profuse the discharge. After the patient has micturated, the meatus is washed out, and then, by a series of lavages, the anterior urethra, the fluid being allowed to pass as far as the sphincter and emitted at once. An actual injection is then given under pressure and retained for two or three minutes in the canal.

This procedure is followed until the discharge stops completely, which usually happens in about ten days. This, however, does not imply that the cure is yet complete. Carle insists upon three injections being given each day, and arranges the times for these in accordance with the patient's military duties. He draws particular attention to the fact that during the first period of treatment injections are given, and not a copious washing out of the bladder and urethra. He condemns unsparingly the prevalent method of freely washing out the bladder and urethra once each day, for he considers it to be much too dangerous for adoption, at any rate in treating large numbers of cases.

To complete this first period of six or eight capsules of sandalwood oil or copaiba should be taken each day, especially if the patient has a tendency to urgent micturition or passes cloudy urine. In the latter case, he should be put upon milk, otherwise with the exception of stopping all wine, no difference is made in the diet.

With the cessation of the discharge, the painful micturition and the local signs of urethral inflammation will have passed off, and a change is made in the procedure. The morning injection is replaced by a copious washing out of the bladder and urethra with a solution of permanganate, 0.1 c.g. to the litre. This is entrusted to a trained attendant. The resistance of the sphincter is usually overcome after one or two attempts. In some cases a previous injection of cocain is necessary, but it is more advisable to continue the previous treatment by injection and the balsams. For the other two injections in the day, the permanganate is replaced by a silver salt. After micturition and urethral lavage, an injection of nitrate of silver, 1 in 1,000 to begin with but increased as quickly as possible to 2 or 3 per 1,000 is given at noon and in the evening. This should be retained for two minutes at first, but this time must be increased by degrees up to five or six minutes. These injections are given under the superintendence of trained attendant, and their retention is considered to be quite as important a feature of the treatment as their repetition.

As to the length of time for which the treatment should be kept up, this second stage should always be continued for longer than seems necessary. An average of from 15 to 20 days, more rather than less, is necessary. After a week, a cure has apparently been established, but a relapse will certainly occur if the treatment is left off. The length of time varies according to the stage at which treatment was first begun. If the discharge had already been present, without complications, for a month, the time required will be shortened, but if treatment is begun during the first week of the disease, a longer time will be necessary. In any case, not less than from 15 to 20 days should always be allotted to the second stage of the treatment.

It is advisable to stop the injections three or four days before the patient is discharged as cured.—(*Jour. de Méd. et de Chir. prat.*, August 25, 1917.)

Syphilis and Heart Disease.

At a recent meeting of the Académie de Médecine of Paris Professor Gaucher claimed for syphilis a greater part in the production of cardiac disease than is generally admitted. He considered that lesions of the orifice and of the origin of the aorta were frequently syphilitic. Indeed, he asserted that all aortic lesions which are not consecutive to rheumatic endocarditis are syphilitic. In some cases aortic lesions are found in patients with only vague rheumatic antecedents and who are subject to pains which are called "rheumatic." But when such patients are carefully examined slight signs of tabes, particularly loss of knee-jerks, may be found. Moreover, the coexistence of marked tabes and aortic lesions is not very rare. Professor Gaucher further referred to the subjects of aortic disease who are liable to sudden death, not merely those with marked lesions, but those who show only a little dilatation of the aorta and an accentuated second sound. These signs, he thought, were often misunderstood, and many persons who died suddenly from apoplexia had old syphilitic disease of the aorta. Even a certain number of cases of hemiplegia attributed to syphilitic arteritis of the cerebral vessels were due to emboli originating in an unknown or misunderstood aortic lesion. Indeed, he considered sudden death as almost always due to syphilis, whether from the preceding mechanism, perforating myocarditis, or angina pectoris. The coronary arteritis which produces angina pectoris he considered always syphilitic. This was proved by the history, the sero-reaction, and above all by the result of treatment with mercury and iodide, which was often efficacious.

Rupture of the heart he regarded as a result of gumma, and lesions of the bundle of His and the permanently slow pulse as also syphilitic. Hypertrophic sclerous myocarditis and the interstitial nephritis which accompanies it were, he thought, in most cases due to syphilis. Professor Gaucher did not report the observations in detail on which he relied to prove these views, but whether they are completely accepted or not they deserve to be widely known because of the frequently beneficial effect of antisyphilitic treatment with mercury and iodide which he has obtained in aortic and myocardial affections, even when there were concomitant arterial lesions, if the renal permenability was assured. Professor Gaucher also claimed that syphilis played a part in the production of mitral disease and related the following case. A man who consulted him for pityriasis of the scalp incidentally mentioned that he had heart disease of rheumatic origin, and had consulted a cardiac specialist, who prescribed digitalin. There was well compensated mitral regurgitation. Professor Gaucher then asked the patient if he had ever had syphilis. He replied that he had had a chancre, but was well treated, and permitted to marry by his doctor and had three healthy children. The knee-jerks were absent. Professor Gaucher prescribed a treatment for which the patient showed so much repugnance that in all probability he did not follow it.

Professor Gaucher finally claimed that congenital syphilis played a part in the production of heart disease, and suggested that it should be looked for in cases of obscure origin.—(*Lancet*, Dec. 22, 1917.)

Syphilis and Appendicitis.

The importance of the two extremely common chronic and persistent infections, tuberculosis and syphilis, in producing morbid changes not obviously of a specific nature is perhaps sometimes overdone. The late Professor Landouzy, in probably his last published article, pleaded for tuberculosis as the cause of appendicitis, and Gaucher (*Bull. Acad. Méd.*, Paris, 1917, 3 ser., lxxvii, pp. 387-389) now brings forward cases in support of his contention that congenital syphilis plays a part in familial apendicitis. In a striking instance there were eight children in a syphilitic famly, three died soon after birth and the remaining five had appendicitis. He also quotes a family to show that several cases may occur in the second generation of congenital syphilitics.

In the discussion on this subject Jalaquier (ibid., pp. 425-427) quoted 80 cases of appendicitis in which the Wassermann reaction had been applied. Out of 60 children it was negative in 52 and positive in 8, but allowing for the fact that in congenital syphilis the Wassermann reaction may be negative in 5 per cent., the positive figure is corrected to 11; in 20 adults the reaction was positive in 6 and negative in 14. Therefore, as the Wassermann reaction was positive in but 17 out of 80 operative cases of appendicitis, it appears that syphilis and appendicitis may sometimes occur together but are quite independent.—(*Brit. M. J.*, No. 2958, 1917.)

From Rudyard Kipling.

"It ain't the individual
Nor the army as a whole,
But the everlastin' team-work
Of every bloomin' soul."

"If you smoke or if you chew,
Buy a Stamp!
Each day skip a weed or two, to
Buy a Stamp!
Sacrifice should a pleasure be
When the cause is 'Liberty,'
That's the way it looks to me—
Buy a Stamp!

—*Loyal American.*

Diagnosis and Treatment

Lesions of the Chest.

Marshak observes that of the lesions outside the lungs, the most important and the one most frequently mistaken for tuberculosis is aortic aneurysm. Some aotric aneurysms and dilated aortas give practically no symptoms which give us a clue to the diagnosis. By their size they produce pressure on the bronchi, and signs which might indicate any lesion from infiltration to cavity formation, develop. Moisture is produced by a retention bronchitis and we may find the lungs full of large and medium coarse râles. As a rule there is no fever, but this retention bronchitis may become fetid in character. Absorption of this material will raise the temperature. Many of these cases are never diagnosed properly during life. At post-mortem our surprise and chagrin at the mistake we have made is most marked. The one clue that we have, that the case might not be tuberculous, is the fact that we have a tremendous quantity of sputum in an apparently active, far-advanced case, in which no tubercle bacilli are found. Large quantities of sputum from apparently active cases containing no tubercle bacilli should always put us on our guard to make repeated and thorough examination and investigations. Since the days of *x*-ray in diagnoses of chest lesions, mistakes are less liable to occur than formerly. The *x*-ray should show up this pulsating tumor in the mediastinum. In those aneurysms which have typical sysptoms, no mistake should be made. Nevertheless, it is not an infrequent occurrence, especially among negroes, to find such aneurysms sent into sanatoria with a diagnosis of far-advanced pulmonary tuberculosis. Tuberculin reaction is, as a rule, negative. The Wassermann test, as a rule, is positive.

One other type of lesion outside the chest is rather frequently mistaken for pulmonary tuberculosis. This is tumors of the mediastinum. These might be benign or malignant. The *x*-ray examination will show an enlarged hilus shadow with most of the lung clear. Cough is probably the most marked symptom present. This cough is most usually of the harsh, "brassy" type, and non-productive. The sputum, at times in large quantities, is usually rather fluid and glary, the albumin content being small. When retention bronchitis occurs the sputum becomes more muco-purulent and it is difficult to make out any difference between it and the sputum of tuberculosis. There are no tubercle bacilli present, however.

When we consider the pulmonary lesions mistaken for tuberculosis, our problem becomes more complex. These lesions may be separated into two types. The most frequent type here is that in which the lesion, because of location or pathology, is markedly different from tuberculosis. The other is produced by organisms of the streptothrix and leptothrix type, or by various dusts, as iron, coal and lime. The lesion here is indistinguishable from pulmonary tuberculosis, and only careful study will differentiate the two conditions.

Among the first type of lesion we can mention chronic lung abscess, bronchiectasis, malignancies of the lung, and syphilis of the lung. When we have a case that has a great quantity of purulent sputum in which the condition has lasted a long time, sometimes giving the history of a rather acute onset, the signs showing up anywhere but at the apex, with a clear lung on the opposite side and having no tubercle bacilli after repeated examinations, it is time to look for some other cause than tuberculosis. The case is probably one of pulmonary abscess. The sputum may or may not have a fetid odor. The temperature has periods of short jumps to 100° or 101° F., with more or less prolonged periods of normal. Blood spitting is not uncommon and even frank pulmonary hemorrhage might be present. The *x*-rays show a rather dense shadow on one side, the apex lights up fairly well under the fluoroscope, and a clear lung on the opposite side. The fingers may or may not be clubbed. Tuberculin reactions probably negative. The signs indicate a consolidation of the part of the lung affected. Sometimes signs of cavity are made out.

True bronchiectasis is more common than the average textbook would allow one to believe. Here we have a long-standing condition with cough and rather fetid expectoration as the main symptoms. Morning sputum comes up in large quantities—up to six or eight ounces. It is negative for tubercle bacilli. For the length of time elapsed in the history, the general physical condition of the patient is good. The fingers and toes are markedly clubbed. There may be periods of blood spitting, but frank hemorrhage is extremely rare. The signs are extremely indefinite, the only departure from normal being, at times, slight dullness at a base with somewhat distant breathing.—(*Med. and Surg.*, Nov. 11, 1917.)

Heart Failure.

H. L. Flint says abnormal rhythms may be recognized by—
(*a*) The electro-cardiagraph.
(*b*) The clinical polygraph.
(*c*) Symptoms and physical signs.

An appeal to the electro-cardiagraph is undoubtedly the most certain method of analysing the heart's rhythm. But only a small proportion of cases of heart failure can be examined in this way.

The clinical polygraph will usually reveal the nature of the heart's rhythm. There is really no reason why all practitioners should not be familiar with this method of examination, the instrument is easily carried about, and can be quickly manipulated.

Failing the use of instrumental methods, one must rely on symptoms and physical signs—

A rapid and regular pulse of 130 to 160 per minute when the patient is at rest, which is not increased by effort, usually indicates auricular flutter. In auricular fibrillation, except in those cases under the influence of digitalis, the pulse is rapid and exhibits a very grotesque form of irregularity, no two consecutive contractions being of the same strength, and the pauses between the beats continually changing.

In the days before auricular fibrillation was recognized, this form of pulse received various names, such as: the mitral pulse, delirium cordis, or pulsus irregularis perpetuus of Hering.

Mackenzie estimates that 60 to 70 per cent. of all cases of heart failure with dropsy are suffering from auricular fibrillation.

In a patient who is known to have previously had auriculo-systolic mitral murmur, which is now found to have disappeared, one of the abnormal rhythms is certainly present, and auricular fibrillation can almost safely be diagnosed.

A diminuendo, early diastolic, mitral murmur never occurs until after the development of an auriculo-systolic murmur when the left auricle contracts. Therefore, when a diminuendo diastolic murmur is heard on examination, but no auriculo-systolic murmur, auricular fibrillation is probably present.

It is obvious, except in those rare forms of abnormal rhythm in which auricle and ventricle contract together that the disappearance, or non-appearance when there is a diastolic and no auriculo-systolic murmur, of the auriculo-systolic mitral murmur is due to failure of the left auricle to contract and force the blood which has collected in the auricular chamber, through the narrowed mitral orifice into the left ventricle, the auricle being in a condition of fibrillation.—(*Practitioner*, Nov., 1917.)

Mackenzie defines heart failure, as that condition in which the heart is unable to maintain an efficient circulation when called upon to meet the efforts necessary to the daily life of the individual.

Stated in general terms, the object of the circulation is to carry nutrient materials to the various organs and tissues of the body, and to remove waste products therefrom. The force which drives the blood is derived from the muscle of the ventricles.

If a healthy heart muscle is called upon by the tissues of the body to supply them with an abnormally large quantity of blood in consequence of an abnormally large exertion made by an individual, and if it is unable to respond to the demand, then an efficient circulation will not be maintained, and heart failure in a perfectly normal and healthy heart will result.

If a diseased heart is called upon by the tissues of the body to supply them with a normal quantity of blood, due to an average or normal exertion made by the individual, and if it is unable to respond to this demand, then an efficient circulation will not be maintained, and heart failure in a diseased heart will result.

It is, therefore, obvious that the cause of heart failure, or the inability of the heart to maintain an efficient circulation, is the same in the normal and in the diseased heart, *i.e.*, the heart-muscle is not powerful enough to supply the demands upon it.—(*Practitioner*, Nov., 1917.)

Acute Myelogenous Leukemia.

A case of acute myelogenous leukemia is reported by H. T. Simon and M. S. Rosenthal, New Orleans, with postmortem findings which are rare in the literature. A definite diagnosis was made only at the postmortem. These cases are rather extensively reported and, considering the rarity of the type, must be of itnerest. Both miscroscopic and macroscopic observations were made and the diagnosis can hardly be questioned. The markedly increased white cell count of 716,000 in fifteen days indicated a leukemia of the most malignant type.—(*J. A. M. A.*)

Tuberculosis of the Stomach.

A. C. Broders reaches these general conclusions:

1, Little was known of gastric tuberculosis before the middle of the nineteenth century.

2. Gastric tuberculous lesions have practically the same gross and microscopic appearance as tuberculous lesions of the intestines.

3. A specific reason for the relative immunity of the stomach to tuberculosis still remains unknown.

4. The gastric juice appears to have a very slight effect on the tubercle bacillus unless the contact extends over a period of at least twelve hours.

5. It is possible to produce gastric tuberculosis experimentally.

6. The exact mode of infection is often difficult to determine.

7. The theory that gastric tuberculosis is always secondary to intestinal tuberculosis has been disproved.

8. About half of the cases reported as gastric tuberculosis should be classified as doubtful or rejected.

9. Adults are affected more often than children, the ratio being about 3 to 1.

10. Males are affected more often than females, the ratio being about 2 to 1.

11. Ulcer is the predominating lesion in the positive and probable cases, constituting 81.6 per cent. of the former and 80.5 per cent. of the latter.

12. In the positive cases the lesser curvature is the most frequent site of the ulcer or ulcers, the pylorus leading in the probable cases and in a combination of the positive and probable cases.

13. In tuberculosis of other organs associated with gastric tuberculosis, the lungs take the lead, closely followed by the intestines.

14. No case of tuberculosis of the stomach has been absolutely proved to be primary in the stomach.—(*S., G. and O.*, Nov., 1917.)

The Wassermann and Luetin Reactions in Tuberculosis.

Corper, Gekler and Sweaney, of Chicago, compare the result in tuberculous patients of the luetin and intracutaneous test done with commercial luetin with those of complement fixation done with non-cholesterinised beef heart antigen and the Noguchi anti-human hemolytic system. Seventy-nine of a total of 170 negative Wassermann cases gave a positive luetin reaction while only 18 out of a total of 28 positive Wassermann cases gave a positive reaction. They conclude that the luetin reaction cannot be used in tuberculosis sanatoria to displace the Wassermann reaction and that because of the high percentage of luetin reactions in tuberculous patients not due to tertiary or latent syphilis the reaction as carried out today with luetin obtainable on the market is unreliable.—(*Am. Rev. Tub.*, 1917, Vol. 1, No. 9.)

Present Status of Induced Pneumothorax in Tuberculosis.

Wm. N. Beggs, of Denver, discusses the present status of induced pnuemothorax in tuberculosis, reviewing the reports and opinions of others and adding the results of his own experience. He summarises his conclusions as follows:

1. While the operation of induced pneumothorax *per se* is not a dangerous one the practise of collapse therapy calls for special skill and judgment.

2. Collapse therapy unquestionably restores to practical health many otherwise hopeless cases, and prolongs the life and increases the comforts of many others.

3. It is of positive influence in decreasing the period of incapacity.

4. It should be used in all cases of recurrent, severe and protracted haemorrhage.

5. It should be invoked, generally speaking, much earlier than is now the usual custom.

6. In justice to the patient it should be considered in every case of advanced or moderately advanced, slowly progressive pulmonary tuberculosis in any stage, because the natural trend of all these is toward death.

7. Control by frequent skiagraphic and fluoroscopic examinations should be insisted upon wherever at all possible.

8. As Woodcock well says: "There are dangers in connection with the production of artificial pneumothorax, but the greatest—and about this let there be no mistake—is the neglect in which it is held."—(*Am. Rev. Tub.*, 1917, Vol. 1, No. 9.)

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Time Fights for Germany—Buy Bonds Now.

The Physician's Library

The Way Out of War, a Biological Study. By Dr. Robert T. Morris. Doubleday, Page & Co., Garden City, New York. Net, $1.00.

"After the civilized world has become democratic as a result of the present moral evolution, it might remain democratic for a very long time excepting for the birth of a certain number of politicians every year."

Dr. Morris seems to believe that the substitution of biologists for politicians will do some good, and yet he confesses on the very first page of his book that "we shall be enabled to enter into warfare or to retreat from warfare in the future under direction by the intellectual set of faculties instead of as formerly by the emotional set of faculties."

Treitschke and all his kind are aplying Darwin's idea of struggle. Morris seems to hope that Darwin's theory of mutual interdependence may yet by some miracle be applied by naturalists to the social order, or at least by those biologically informed.

There is a profusion of suggestive thought and data in the book which makes the author's contentions seem plausible. Certainly his intent is high and his insight profound. He accounts fully for things as they are, and does not beg the question of means when he writes of how they might be.

"Were all nations to consist of botanists, of engineers, of astronomers, there would be no warfare-by-arms. The honor of a botanist, an engineer, or an astronomer does not become injured. It is the injured honor of the politician for which the botanist, engineer, and astronomer must pay out his financial competence and for which he must send his children to face the cannon, to suffer, and to be slain."

We cannot forbear expressing the suspicion, if not the conviction, that the surest basis for peace would be nations consisting of philosophic physicians like Dr. Morris. We say like Dr. Morris advisedly, for the philosophers bear even more responsibility for warfare than the politicians—witness Nietzsche. A. C. J.

American Illustrated Dictionary. By W. A. Newman Dorland, M.D., 9th edition. Philadelphia and London: W. B. Saunders Co., 1917.

That this dictionary stands far in the lead of similar American works can scarcely be gainsaid. It is to be found in all well-ordered libraries and it has fully earned its high place in the estimation of thoughtful physicians. Over 2,000 new words with many war words are to be found in its pages. Among the features which cause this book to stand preeminent are: Anatomic tables, chemical formulas, signs and sypmtoms, methods of treatment, dosage and therapeutic table, tables of exanthemata, reactions, staining and fixing methods, operations and medical biographies.

Materia Medica, Pharmacology, Therapeutics and Prescription Writing. By Walter A. Bastedo, Ph. G., M. D., of Columbia University. Second edition, 654 pages, illustrated, cloth, $4.00 net. Philadelphia and London: W. B. Saunders Company, 1918.

This useful and well written book has been revised to meet the changes in the 9th revision of the Pharmacopeia and many parts of it have been completely rewritten. The careful compilation, the close attention to remedies as agents for the treatment of the sick and not as an exponent of the pure science of pharmacology and the consideration of the pharmacologic action of each drug attract favorable attention. Not the least valuable feature is the chapter on prescription writing. The book will receive kindly notice on account of its general excellence.

A Text-book of the Practice of Medicine. By James M. Anders, M.D., of the University of Pennsylvania. Thirteenth edition, thoroughly revised with the assistance of John H. Musser, Jr., M.D., cloth, 1,259 pages, fully illustrated, cloth, $6.00 net, half morocco, $7.50 net. Philadelphia and London: W. B. Saunders Company, 1917.

This old friend of our student days comes to us again refurbished and rejuvenated, with many and excellent additions. It seems almost unkind to tell how much an old friend has improved in less than eighteen years, but true it is. Many chapters which we poured over as students are decidedly changed or have disappeared and the 13th edition is as up to date as any work on practice.

This volume is especially to be commended on account of its breadth of clinical vision and the excellence of its dissertations on symptomatology and treatment.

Dyke's Automobile Encyclopedia. By A. L. Dyke. Cloth

(*Continued on p.* 22.)

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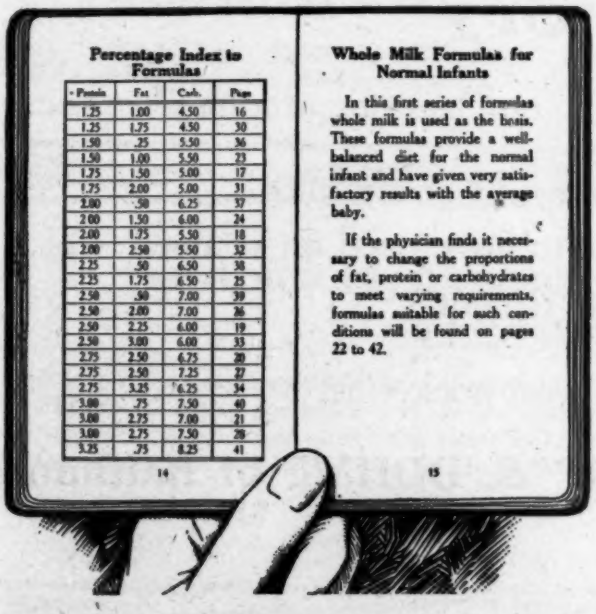

Percentage Index to Formulas

Protein	Fat	Carb.	Page
1.25	1.00	4.50	16
1.25	1.75	4.50	30
1.50	.25	5.50	36
1.50	1.00	5.50	23
1.75	1.50	5.00	17
1.75	2.00	5.00	31
2.00	.50	6.25	37
2.00	1.50	6.00	24
2.00	1.75	5.50	18
2.00	2.50	5.50	32
2.25	.50	6.50	38
2.25	1.75	6.50	25
2.50	.50	7.00	39
2.50	2.00	7.00	26
2.50	2.25	6.00	19
2.50	3.00	6.00	33
2.75	2.50	6.75	20
2.75	2.50	7.25	27
2.75	3.25	6.25	34
3.00	.75	7.50	40
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Mellin's Food Company
Boston, Mass.

(*Continued from p.* 142.)

bound; 6¾x9¾ inches. Seventh edition. 824 pages; 2,370 illustrations. Price, $3.50, net. Published by the Author at St. Louis, Mo.: 1918.

The new edition of this useful book will appeal to physicians who care for their own cars, because it will enable him to have a very real knowledge of his engine and the disorders to which it is subject. Dyke's Automobile and Gasoline Encyclopedia, seventh edition is just off the press.

In reading a review of a leading London publication on the sixth edition, they say: "We have had encyclopedias of motoring before this one, but none so deserved its title. It is the most comprehensive, exhaustive, and informative work yet published on the subject of the motor car and its technique."

The Aeroplane of London also reviews the book and praises it highly. Then, further on, in some of Mr. Dyke's list of testimonials and printed matter, we see a copy of a letter addressed to Mr. Dyke's London agent, wherein the Royal Flying Corps have sanctioned the book and propose using it for instructional purposes.

Now that Mr. Dyke has brought out a larger edition with many additions and improvements in the way of revision and illustrations, there is no reason why the book should not be classed as the "best seller" of automobile books.

Every subject has been carefully brought up to date. For instance, under Carburetion, the reader begins with the simplest form of the carburetor, after which he is lead up by degrees until he learns the purpose and meaning of metering-pins, air valves, dash pots, and finally, the very latest Pitot or "plain-tube" principle, which is now becoming very popular. In just this manner the reader progresses from the first principle of an engine to the complicated parts of a twelve-cylinder engine. The ignition subject is made wonderfully simple and clear, as is the electric starting and generating system. Special attention is paid to repairs. Every part of a car or engine is thoroughly treated. One has but to refer to the index to find out how to take up bearings, connecting rods, grind valves, test compression, and just what to do to give an engine more power. The motorcycle which is used by many medical men, comes in for treatment. This book shows how a twin "V" engine fires, names all the parts, tells how the valves are operated and timed, and how the magneto and electric system is operated, etc. All in all the book is one every motor owner should possess.

Man and Woman. By Havelock Ellis, 5th edition. Illustrated. New York: Chas. Schibner's Sons, 1917.

The science of endocrinology finds an able exponent in Ellis. He believes a woman is not a woman on account of her womb, or her ovaries, but because of her internal secretions; and also a man is a man by the totality of his internal secretions.

Ellis finds that sexuality is a far more fundamental and ineradicable characteristic of man and woman than we have admitted heretofore.

As a study of human secondary sexual characters this book will excite the admiration of those who are interested in the subject.

Infant Feeding. By Clifford G. Grulee, M. D., Rush Medical College. Third edition. Cloth, $3.25, net. 326 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1917.

This good book has been made better by the addition of much more material on metabolism. Grulee has given us one of the best works on infant feeding in the American language and it is a pleasure to attest to the fact.

Physical Diagnosis. By W. D. Rose, M. D., of the University of Arkansas. 500 pages. Illustrated. St. Louis: C. V. Mosby Co. 1917.

This book, like many others, covers the field of physical diagnosis. It has no distinguishing features, but it is well put together and gives in brief the information the busy man needs in his every day work.

Ophthalmic Practice. Edited by Walter L. Pyle, M. D. **Medical Ophthalmology.** By Arnold Knapp, M. D. 509 pages. Illustrated. Price $4.00. Philadelphia: P. Blakiston's Son & Co. 1918.

The relationship of diseases of the eye to all the other branches of medicine is clearly brought out in this excellent book, written by a past master. After discussing the anatomy and physiology, Dr. Knapp takes up diseases of the nervous system, diseases of glands with internal secretion, infectious diseases, diseases of the circulation, respiratory tract, digestive tract, kidneys, skin, female generative organs and others. For purposes of diagnosis, the general practitioner will do well to learn from this book the close connection between the eye and other parts of the body.

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